

# Manufacturers Record

Reg. U. S. Patent Office



APRIL 1934

25 CENTS A COPY

## THE POWER TO DESTROY

The President is quoted as referring, in one of his public statements recently, to "hectic days." Whether so intended or not, it serves to describe the times in which we are taking part. Legislation, that is placing in the hands of government, power far beyond the thought of anybody a year or two ago, is being enacted with a speed and abandon which make it impossible for business men to chart a course, or attempt, with any assurance, creative moves that heretofore have been the mainspring of the country's progress.

Capital is hesitant and will not invest in new enterprises because of uncertainty about the future. New ventures are discouraged while government competition with private business increases. Yet, in spite of present operation difficulties, industry is expected to absorb still more of the idle and under threat of compulsion, to further raise wages and shorten hours before there is a profit to justify it.

Meanwhile, Congress hurries on in the voting of vast sums, that will leave a heritage of debt to our children's children and without regard for the immediate or future stability of government credit.

The program of compulsion in the Bankhead cotton bill and other measures appears as the next step on the part of those who discard old principles for colossal experiments that vitally affect the well-being of every individual in the land.

It is not a pleasing picture and Congress is being asked to delegate more power—power over communications, radio, telephone and telegraph, power over the tariff—and the Wagner Bill gives power to a new Labor Board which transcends any power heretofore granted. This will have every employer subject to the whim of any single member of this super-body, who may decide to summons whom he likes, from one end of the country to the other, on twenty-four hours' notice to answer a complaint, FROM ANY SOURCE WHATSOEVER, of a supposed unfair labor practice.

A great statesman once said that the liberty which Americans prize, and for which their forefathers fought, will be curtailed in proportion to the power we give those whom we elect to office.



*Remember!*

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**Wire Rope**

is made in

**ALL**

**Sizes, Grades, Constructions  
and**

**LAYS**

**TRU-LAY**

**Preformed Wire Rope**

is the result of a

**Manufacturing  
Process**

**insuring  
longer life!**

● You can have TRU-LAY Preformed Wire Rope in the size, grade, construction and LAY (Lang or Regular) required on your job.

You can cut wire rope costs materially NOW with TRU-LAY, because the wires and strands are preformed in manufacture to take the exact shape of the rope. They lie *relaxed* in the rope body from the time it is first taken from the spool until it has given its last ounce of service.

Preforming eliminates:

1. Destructive internal stress
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4. Seizing
5. Tendencies to kink
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# "THE 'CATERPILLAR' DIESEL EXCELS ANYTHING I HAVE EVER SEEN" • •

● SAYS THE COMMISSIONER  
OF HIGHWAYS OF AN  
ILLINOIS TOWNSHIP THAT  
HAD PREVIOUSLY OWNED  
THREE GASOLINE TRACTORS

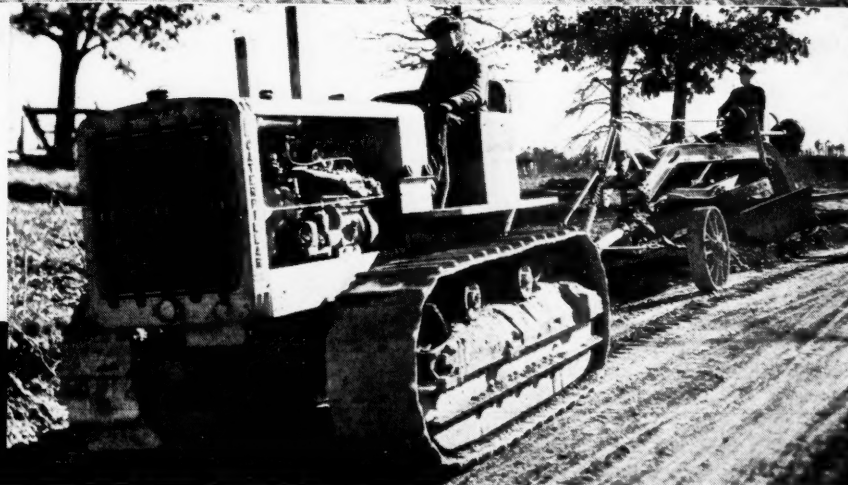
The best judges of the "Caterpillar" Diesel Tractor — and the highest in its praise — are the purchasers who formerly owned gasoline tractors. They know by experience the tremendous savings from a tractor that burns low-price fuel, and less of it. They recognize the simplicity of the "Caterpillar" Diesel, and appreciate the advantage of a tractor that can be operated by the same men who formerly operated gasoline tractors. They have found in the "Caterpillar" Diesel a tractor that has big power, exceptional lugging ability, endurance. There are three sizes of "Caterpillar" Diesel Tractors — and engines available in stationary and portable power units. Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

This "Caterpillar" Diesel Fifty Tractor, equipped with bulldozer, is cutting the costs of filling in around culverts on a Long Island, New York, road-building job.



AMERICA  
GOES  
DIESEL

Polk County, Georgia, found how to build and maintain more miles of road for fewer taxpayers' dollars — with a "Caterpillar" Diesel Tractor and "Caterpillar" Grader.



# Firestone

## STILL RUNNING

### TRUCK and BUS TIRES

*after others fail*

L.E. CASTER, Pres.

GEO. A. FINLEY, Vice-Pres. & Treas.



TELEPHONE-4800.

**AURORA AMERICAN  
BAKING COMPANY**

WHOLESALE BAKERS

AURORA, ILL.

January 27, 1934.

Firestone Tire and Rubber Company,  
16th & Wabash,  
Chicago, Illinois.

Gentlemen:

About three years ago we purchased three new trucks and each came equipped with a different brand of tires, one however having Firestone tires on it.

At the end of 14,000 miles of service one of the sets of tires were worn out and at 18,000 miles another set wore out, but on our check up at 22,000 the Firestones were still serviceable.

We have standardized on Firestone tires due to the exceptional service they have given us and have all of our equipment on Firestones at present.

Yours very truly,

AURORA AMERICAN BAKING COMPANY

*Geo. A. Finley*  
Manager.

GAF:JE

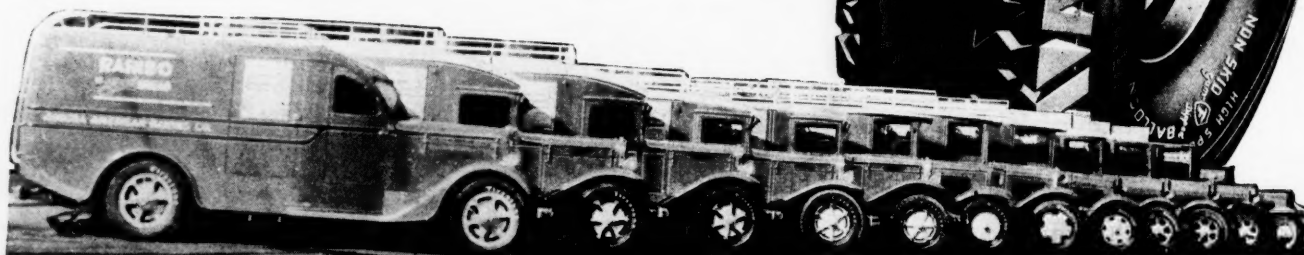
ONLY Firestone Tires are safety protected ON THE INSIDE with Gum-Dipped High Stretch Cords. Every fiber and cord is safety locked with rubber, giving greater strength, longer life and greater protection against blowouts.

They are safety protected ON THE OUTSIDE with deep cut, scientifically designed tread that grips and holds the road and gives long wear.

The Firestone Service Dealer or Service Store in your community will inspect your tires, test your battery, spark plugs and brakes without charge. See him today and start reducing your operating expenses.



Listen to Lawrence Tibbett or Richard Crooks and Harvey Firestone, Jr., every Monday night—N. B. C. Network



**FIRESTONE TIRES WILL REDUCE *Your* OPERATING COSTS**

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MANUFACTURERS RECORD FOR

APR

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**APRIL  
1934**

Volume CIII No. 4

## MANUFACTURERS RECORD

Devoted to the Upbuilding of the  
Nation Through the Development  
of the South and Southwest as the  
Nation's Greatest Material Asset

*Published Monthly*

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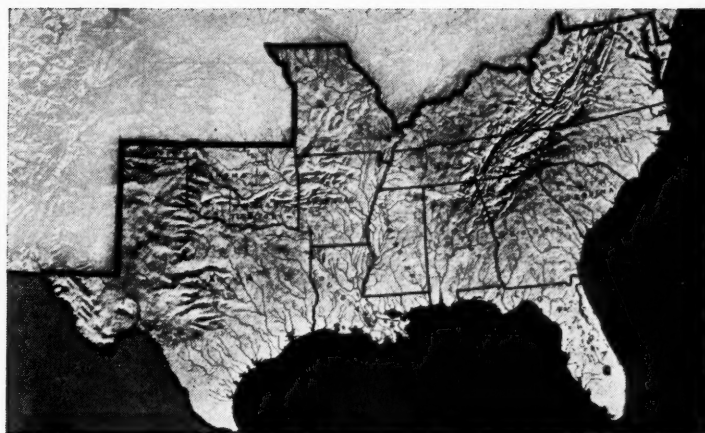
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BLUE BOOK OF SOUTHERN PROGRESS**  
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APRIL NINETEEN THIRTY-FOUR



The South has 31.8 Per Cent of the Land Area and 33.6 Per Cent of the  
Population of the United States

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*PENNVERNON IN EVERY WINDOW. The U. S. Marine Hospital, recently completed in Seattle, Washington, is glazed throughout with double-strength, "A" quality Pennvernon Window Glass, save for certain sash in the operating rooms. Architects: John Graham-Bebb & Gould, Seattle; Contractor, N. P. Severin & Co., Chicago; Glazing Contractor, W. P. Fuller & Co., Seattle.*

## ... means Glazed with the Highest Quality Window Glass

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tive surface finish... on both sides. Better and more permanent powers of color transmission. And a longer-lasting beauty.

We will be pleased to send you samples of Pennvernon upon request, so that you may examine them and see for yourself that when

you specify Pennvernon, you specify the highest quality in sheet glass. Pennvernon is available in single and double strength and in thicknesses of  $\frac{3}{16}$ " and  $\frac{7}{32}$ ", at the warehouses of the Pittsburgh Plate Glass Company in all principal cities, and through progressive glass jobbers and sash and door manufacturers. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pennsylvania.

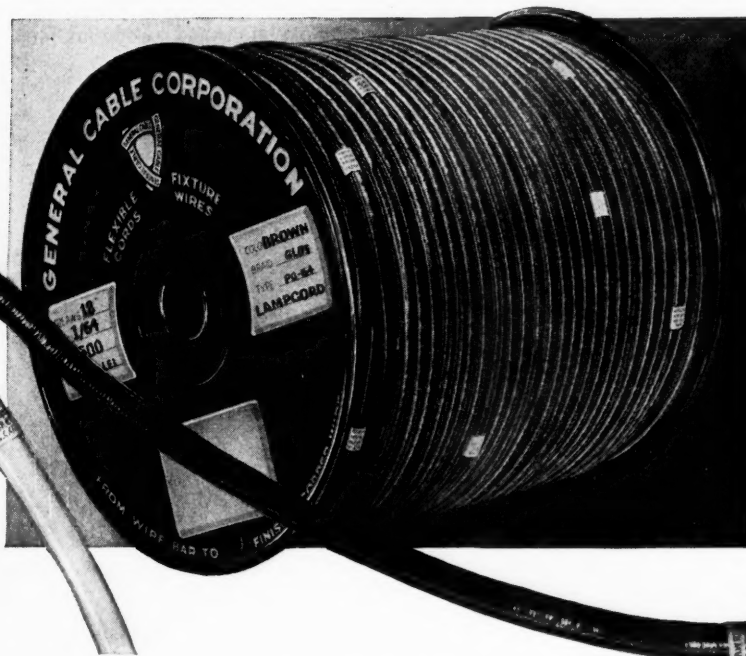
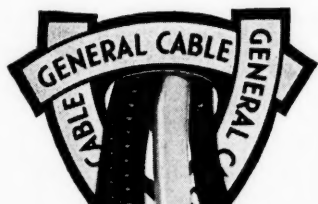
**PENNVERNON  
WINDOW GLASS**



**Beyond the Bracelet Label  
on the Wire . . . there's**

# Significance

**in the Name on the Spool**



**FLEXIBLE CORDS  
OF ALL TYPES**

Silk Covered: Cotton Covered:  
All-rubber sheathed, including  
**SUPER SERVICE** and **SUPERTEX**

*For every electrical purpose.*

**T**HE GENERAL CABLE Name and Trademark, as an identification of standardized high QUALITY, is now established throughout the industry by the adoption of "bracelet label" marking . . . It stands also for SERVICE, through the maintenance, at warehouse points from coast to coast, of adequate stocks of all needed cords . . . In your own trade relations, its listing in your catalogs and display in your stock

certifies your confidence that quality rules in the mind of every intelligent buyer.

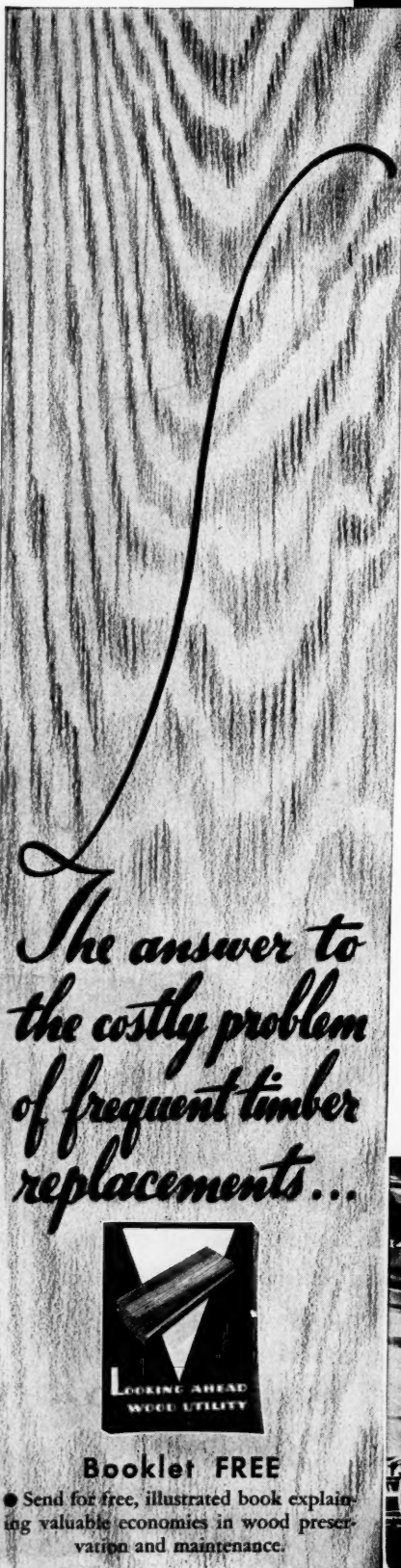
*Have you price data on General  
Cable Cord Sets? Ask your  
electrical wholesaler.*



## GENERAL CABLE CORPORATION

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APRIL NINETEEN THIRTY-FOUR



*The answer to  
the costly problem  
of frequent timber  
replacements...*



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Please send me your booklet "Looking Ahead Twenty Years in Wood Utility."

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# PREVENT ROT

FOR permanent construction, both above ground and in underground timbering, Zinc Chloride treated timber provides lasting protection against decay and insects... thus eliminating frequent costly replacements and keeping maintenance expense at a minimum.

Zinc Chloride treated wood is proof against ROT, resistant to TERMITES (White Ants) and retardant to FIRE.

Long-time service records show that posts, poles, loading platforms, trestles, bridges, highway fences, railway cross ties, mill timbers and mine timbers preserved with Zinc Chloride are still in service after 14 to over 24 years, where untreated wood rots in a few years.

Wood treated with Zinc Chloride is clean, similar in color to untreated wood, odorless, non-volatile, and readily paintable.

Commercial treating plants are located conveniently near you to treat timbers under pressure... Write us for their names.

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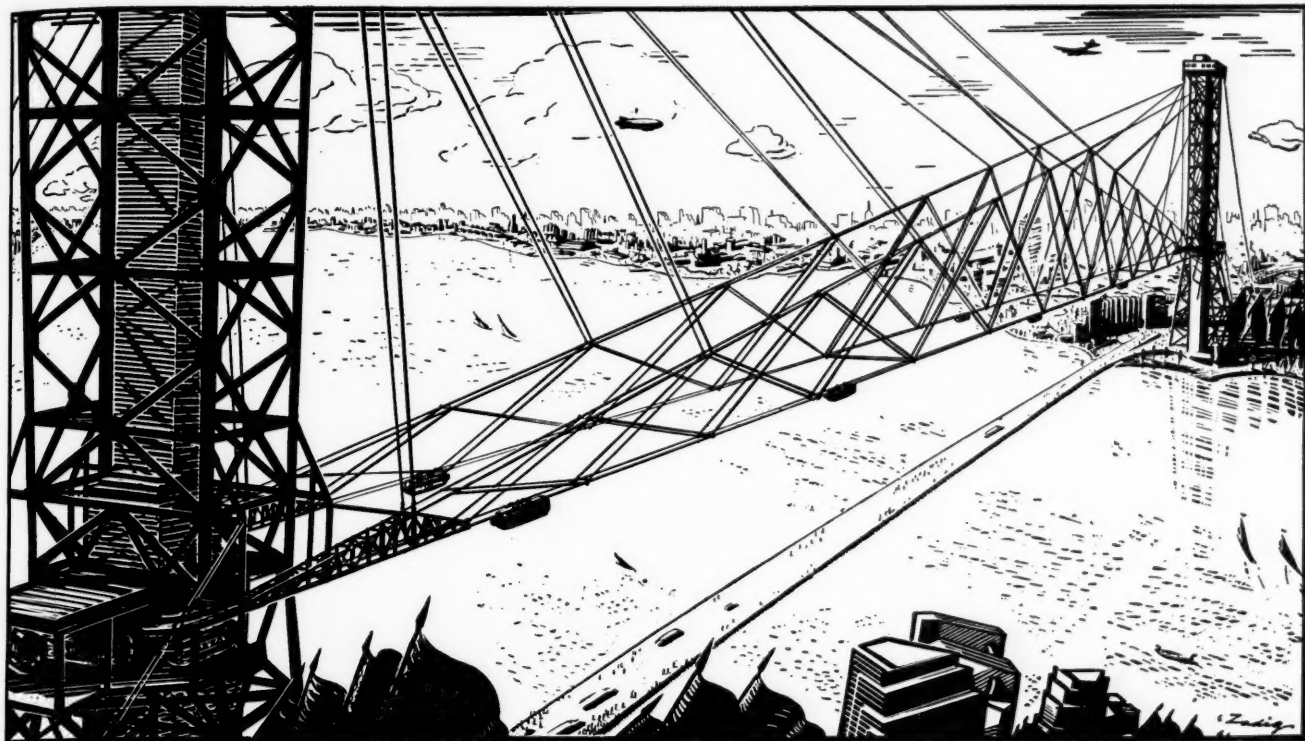
ALBANY	CHARLOTTE	DETROIT	NEW ORLEANS	ST. LOUIS
BIRMINGHAM	CHICAGO	MILWAUKEE	PHILADELPHIA	ST. PAUL
BOSTON	CINCINNATI	NEW HAVEN	PITTSBURGH	
SAN FRANCISCO, 584 Mission Street		LOS ANGELES, 2260 East 15th Street		



Roof Timbers of Large Paper Mill Treated with Zinc Chloride to Prevent Premature Replacement, Resulting in Minimum Maintenance Cost. Timbers Painted White After Installing Same as if Untreated Timber Had Been Used.

*Reduce this expense by using timbers treated with*

# GRASELLI ZINC CHLORIDE



The spectacular Sky Ride, Century of Progress, Chicago, made possible through the development by Roebling of a new engineering principle in cable suspension.

# 1<sup>1</sup>/<sub>2</sub> MILLION PEOPLE CARRIED SURELY AND SAFELY

*...on the Sky Ride, spectacular Century of Progress feature—suspension system designed and installed by ROEBLING...*

Did you go to Chicago's Century of Progress? If so, you saw...and probably rode on...the Sky Ride...the modern World's Fair spectacular feature and successor to the once-conspicuous Ferris Wheel.

1½ million people in five months of 1933 were carried surely and safely on the Roebling Cable Suspension System...on cars which traveled a total of

50 to 60 thousand miles.

Towers are 628 feet high...over ½ of a

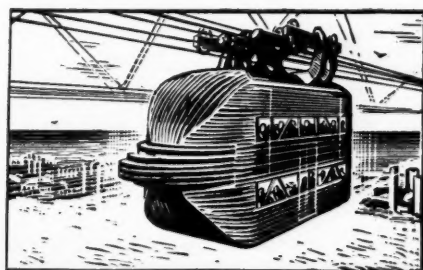


One of the 628 foot Sky Ride towers, each having four Otis Elevators equipped with Roebling Wire Rope.

mile apart...and their Otis Elevators are equipped with Roebling Wire Rope. Span, between towers, is second longest in world. 10 Roebling "rocket" cars—each of 36 passenger capacity—travel 200 feet above ground on Roebling "Sky Ride Track Cable."

Roebling was selected to design and install the Suspension System of the Sky Ride because of its vast experience and the unquestioned dependability of its bridge cables and wire rope. It designed this system in collaboration with Robinson and Steinman, well-known bridge engineers.

For over 90 years Roebling has been the pacemaker in wire rope and bridge



One of 10 Sky Ride rocket cars designed by Roebling in collaboration with the Goodyear-Zeppelin Corp.

cable development. These Roebling Products assure the highest obtainable degree of safe, economical service.

**WIRE ROPE FOR ALL NEEDS...**  
**LARGE OR SMALL:** No matter how exacting the service, or how large or small the order may be, Roebling can meet your requirements. And your order will receive the same careful, prompt attention, whether for a carload of rope or merely a few feet. John A. Roebling's Sons Company, Trenton, New Jersey.

## ROEBLING

*The Pacemaker in Wire Rope Development*

# REX CHAIN

**FOR EVERY DRIVE & CONVEYOR**

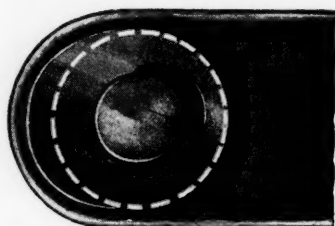
## Rex Z-METAL

Where there's excess wear Rex Z-Metal Chain stops it . . . .

Where there's pounding Rex Z-Metal Chain takes it . . . . .

Where there's corrosion Rex Z-Metal Chain resists it . . .

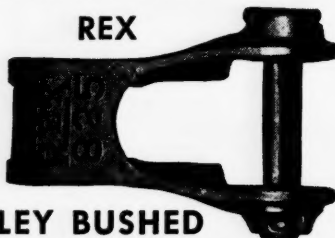
**The Greatest Chain Ever Cast**



### REX DUROBAR

The added metal on the barrel added greatly to its life—now Rex Z-Metal adds a great deal more to the longer life of Rex Durobar on heavy duty elevators.

### REX

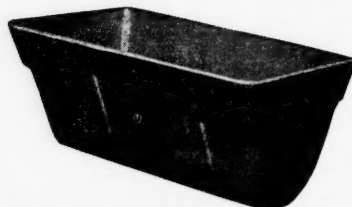


### LEY BUSHED

With hardened or alloy steel bushings. Rex Z-Metal also adds greatly to the working life of this long-wearing chain on heavy duty elevators.

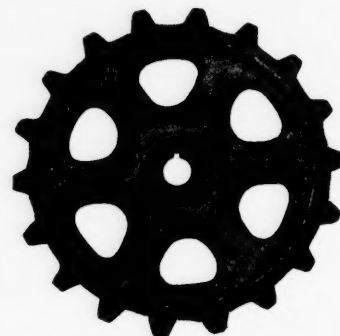
**Send for the Folder  
"REX Z-METAL CHAINS"**

## And the Greatest Wear-Resisting Combination



### REX Z-METAL BUCKETS

Rex Z-Metal Buckets, to go on these chains, will also greatly outlast malleable buckets, giving an unbeatable combination for the severe service in handling rock, sand and gravel, cement.



### Running on Rex Alloy Temperim Sprockets

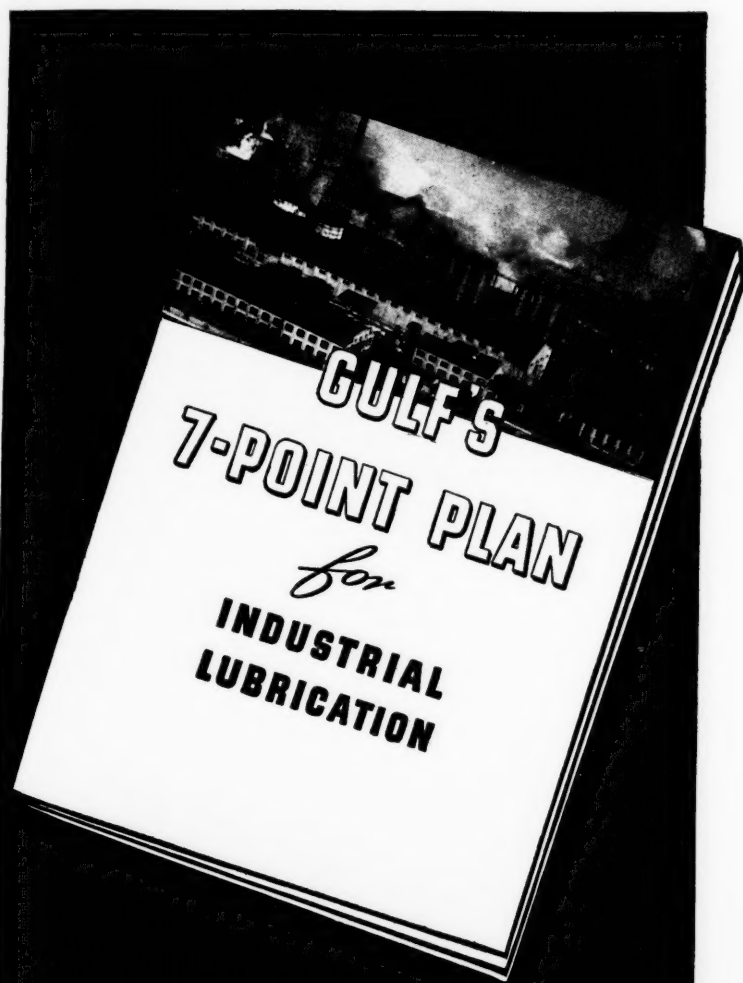
To meet the greater hardness and wearing qualities of Rex Z-Metal Chain—a new Rex Alloy Temperim Sprocket is ready, adding again to the long life that this long-lasting, wear-resisting combination will give on heavy duty service.

### CHAIN BELT COMPANY

1626 W. Bruce St. MILWAUKEE, WIS.

**CHAIN BELT COMPANY**  
**CHAIN & BELT CONVEYING**

# Now...THE TOOLS TO CUT YOUR PLANT OPERATING COSTS ARE *at your Command!*



*This Booklet*

... WILL HELP YOU  
MEET PLANT PAYROLLS

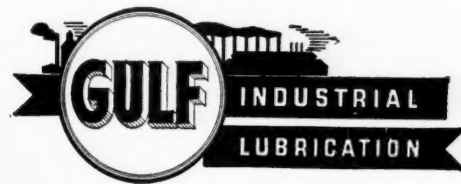
*...write for it to-day*

**C**UT operating costs! That is the answer to the pressing problems of most industrial plants today! Higher fixed costs have forced executives to look for new means and devices for cutting operating expenses and showing profits.

Every plant executive and operating man can now have at his command a new yardstick—a *scientific plan*—which will help him reduce operating and maintenance costs!

Gulf's 7 Point Plan for Industrial Lubrication has been designed to meet the problems encountered in the operation of industrial plants today.

We suggest that you urge every operating official in your organization to become familiar with this cost cutting plan.



GULF REFINING COMPANY

MR 4

Gulf Building  
Pittsburgh, Pa.

Please send me, without charge, "Gulf's 7 Point Plan for Industrial Lubrication."

Name.....

Company.....

Address.....

# 208 years old . . .

## and it is still in service

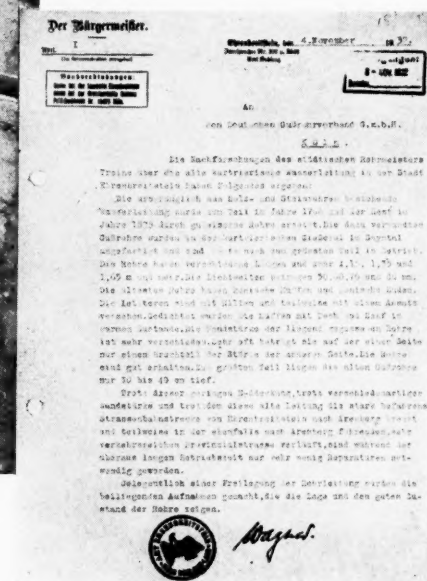


Photographs furnished by courtesy of Deutscher Gussrohr-Verband G. m. b. H. (German Cast Iron Pipe Syndicate), Cologne.

**H**ERE is an unretouched photograph (with authenticating letter) of a cast iron water main which has served the German city of Ehrenbreitstein for more than two centuries. Over his official seal, the Burgomeister writes, "The water main . . . was replaced in 1726 . . . by cast iron pipes . . . and though this old main crosses the much-frequented tramway . . . and lies partly under the provincial street to Arenberg with its heavy traffic, the main required very seldom any repairs during its long time of service. On the occasion of an excavation the enclosed photographs have been made. These show the position and the good condition of the pipes."

Cast iron mains still in use after serving 100 to 200 years, and longer, have been recently

*Methods of evaluating bids now in use by engineers  
rate the life of cast iron pipe at 100 years minimum*



uncovered and inspected in England, France, Germany and the United States. Taxpayers have saved and are saving enormous sums in taxes or rates by reason of the long life and low maintenance cost of cast iron underground mains.

The reason for the long life of cast iron pipe is its effective resistance to rust. Cast iron is the one ferrous metal for water and gas mains, and for sewer construction, that will not disintegrate from rust. This characteristic makes cast iron pipe the most practicable for underground mains since rust will not destroy it. For further information, address The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 309 Peoples Gas Building, Chicago, Illinois.

# CAST IRON PIPE

Look for this



trade-mark

# • Manufacturers Record •

## PROTECT AMERICAN BUSINESS

**L**AST year we bought \$1,449,000,000 worth of goods from foreign countries. This was \$126,000,000 more than in 1932. Of our total imports in 1933, more than \$1,113,000,000, or 76 per cent, was expended for foreign farm and forest products, manufactured and unmanufactured, the balance of \$336,100,000 was for minerals, metals, machinery, chemicals, etc.

We are now told we must lower our tariff and buy more from abroad in order to sell more. The cotton growing sections of the South which export about half of its cotton crop is particularly interested in this movement, but what other industrial group is to share its domestic market with foreign producers and what is to happen to the workers in the affected groups when increased foreign competition curtails their sales? Surely general farmers, now overburdened with surplus crops, should not be made to suffer additional import competition. With our industrial capacity in many lines now beyond our domestic requirements the jobs of industrial workers should not further be jeopardized by opening wide our home markets to foreign producers. Employed American factory workers create wealth and buying power in the United States. They are the best customers of our farmers.

Let us not forget that over 60 per cent of our import values in 1933 entered this country free of duty. Ninety per cent of the imported crude foodstuffs, 38 per cent of the manufactured foodstuffs, 71 per cent of the crude materials, 60 per cent of the semi-manufactures and 41 per cent of the finished manufactures pay no duty and directly compete with American producers.

With the rise in the price of commodities under N. R. A., with the increased cost of farm products under the A. A. A. and the processing tax, it is all the more vital that American producers and labor's jobs be protected against cheap foreign goods. It is more important to protect our domestic business which is about 95 per cent of our total trade than to make doubtful concessions to the remaining 5 per cent done with foreign countries. With the exception

of certain tropical products and manufactured specialties not produced in this country, there is nothing that we need to import and nothing that can be imported without direct competition with American producers and labor.

With the amount of import business now being done, we are paying a high proportion of our ocean shipping costs to foreign carriers; foreign investors in American enterprises are still receiving millions in dividends and interest from this country, and American tourists spend abroad hundreds of millions of dollars a year, all of which must be taken into account in considering foreign capacity to buy American products.

### General Imports, 1933

Classified	Total Value	Per Cent of Total	Entered Free of Duty Value	Per Cent
Crude materials....	\$418,155,000	28.9	\$298,241,000	71.3
Crude foodstuffs....	211,817,000	14.6	190,202,000	90.0
Manufactured foodstuffs .....	205,042,000	14.1	78,448,000	38.0
Semi-manufactures	292,000,000	20.2	177,946,000	60.9
Finished manufactures .....	322,194,000	22.2	133,163,000	41.3
Grand total .....	\$1,449,208,000	100.0	\$878,000,000	60.6

### General Imports, 1933, by Commodity Groups

	Total Value	Per Cent All Imports
Animals and animal products.....	\$140,029,000	09.7
Vegetable products, except fibers and wood .....	532,440,000	36.7
Textiles .....	270,452,000	18.6
Wood and paper.....	170,179,000	11.7

### Total farm and forest products, unmanufactured and manufactured .....

	\$1,113,100,000	76.7
Fish and Fish products.....	\$22,140,000	01.5
Nonmetallic minerals .....	66,026,000	04.6
Metals and manufactures, except machinery and vehicles.....	116,001,000	08.0
Machinery and vehicles.....	8,558,000	00.6
Chemicals and related products....	59,938,000	04.1
Miscellaneous, including sport goods, books, art works, novelties, etc....	63,445,000	04.5
Grand total imports.....	\$1,449,208,000	100.0

There always will be a certain amount of trade between the United States and foreign countries but since many foreign countries have rapidly developed their own manufactures and have improved their agricultural situation to the point where many are rais-

ing their food supply, they do not require as much of our goods as formerly and unless another war disorganizes production and distribution facilities they will not buy on the scale of former years. Certainly with our own productive capacity and possibilities of development of industries we do not require so much of foreign goods. Foreigners only buy from us or other countries when they can do so at a saving or because of superior quality. They have bought our cotton because of its better quality in the past and they have bought more of it when prices were comparatively low.

It has been said that we cannot sell cotton abroad except on a reciprocal trade basis and that means tariff revision downward. We have not lowered the tariff and yet in the calendar year 1933 we shipped 8,354,000 bales of cotton abroad. In the past two years of the worst of the depression we shipped abroad more than 17,400,000 bales of cotton. In the two most prosperous years 1928-29, when we were lending billions to foreign countries, we shipped abroad only 16,314,000 bales. In the five years 1921-25 our average of cotton exports were only 6,639,000 bales when presumably Europe was replenishing its textile supplies. In the five years 1929-33 since the beginning of the world depression our average cotton exports have been 7,309,000 bales.

It is not conceivable that we would have sold any more cotton had we been buying twice as much from foreign producers. They would not have bought more cotton at prevailing American prices than their capacity to consume. They would not have bought more wheat or any other commodity that they were endeavoring to produce and which they have been protecting against competitive imports.

As more than 76 per cent of our import values represent unmanufactured and manufactured products of the farm, any general lowering of the tariff would adversely affect the American farmer in opening his own home market to cheap foreign farm competition.

Foreign growers have been increasing their acreage and production while we have been curtailing acreage. In 1933 we cut off 6,000,000 acres, foreign countries added 4,000,000 acres. Many foreign countries have been increasing industrial capacity while we have taken a shortsighted policy of limiting new construction even in the establishment of pulp and paper plants that would enable us to supply our own requirements. Are we now to open the way for foreign producers to enter our home markets, causing further unemployment in our factories?

What we need to do is—

To concentrate on the development of our home market by producing the things we use in the United States giving employment to American workers instead of trying to see how much employment we can create abroad by buying more from foreign producers.

To increase the buying power of American industrial workers so they can buy more manufactured cotton and other products of American producers.

To protect American sugar producers and American sugar workers.

To protect American clay workers and our ceramic industries, our lumber and steel as well as our farm-

ers against foreign imports produced by cheap labor.

To produce our own woodpulp and paper requirements. If we produced in the United States the pulpwood products now imported we could give year round jobs to 70,000 American workmen. The South can supply the raw material needed. We paid \$143,000,000 for pulp and paper imports in 1933, including free of duty \$5,362,000 of pulpwood and \$57,398,000 of manufactured woodpulp.

The existence of thousands of local industries and all that we have been trying to accomplish through the Recovery movement in creating employment, raising wages and reducing working hours will be at stake if we allow foreign goods to undermine our domestic trade.

## SAVE HIGHWAY INVESTMENT

THE nation has made great progress in highway building in the past 20 years. We have invested more than \$15,000,000,000 in good roads in the construction of a network of State highway systems joining the distribution centers of the country. But out of a total of more than 3,180,000 miles of roads in the United States, little more than 150,000 miles have been hard-surfaced and only 870,000 miles are improved in any way, leaving more than 2,310,000 miles in the "mud" road class most of which are impassible in bad weather. Over 2,500,000 farmers are located on these "mud" roads.

The American Highways Association shows that highway improvement has been at the rate of approximately 50,000 miles, including 15,000 miles of hard-surfaced roads, annually in recent years. This has not been sufficient to meet the demands of increasing highway traffic and it is estimated that an annual highway program of over 100,000 miles, including widening and reconstruction of existing roads, is justified if we are to have an adequate national transportation system.

Highway expenditures by States and local governments have been at the lowest point in years, with some States ceasing new construction entirely other than that provided by the Federal aid allotments. The entire \$400,000,000 Federal appropriation for highway construction authorized in June, 1933, has practically all been let to contract. The result is that by the end of this year all funds now available will have been totally expended leaving the only highway activity in 1935 to be provided by the States estimated at about one-fifth of the present program.

To forestall the impending cessation of road building and fulfill the economic need for highways, highway leaders are urging another Federal appropriation of at least \$400,000,000 to be available to the States for the fiscal year beginning July 1. This fund will not only assure at least 500,000 workers continued employment but will enable the States, when the legislatures have an opportunity to act, to return to their normal road improvement program. Also, it will help to safeguard our present highway investment by providing funds for maintenance and repairs.

## DEVELOP HOME MARKETS

THE South can improve its economic and social conditions if its people have the vision to rightly evaluate its resources and its possibilities. Its leaders must have the initiative and the energy to properly utilize the great natural advantages for diversified manufacturing to provide opportunities for employment.

The South continues to be one of the great agricultural regions of the world. It is capable of growing practically all of the staple crops of other sections, and in addition supplies more than half of the world's cotton. Cotton has been a blessing and a curse to the South. In the early days the South's whole agricultural development centered around cotton, and to compete in the world's markets with foreign cotton countries with lower living standards and labor costs, the South has been forced to keep its wage scale proportionately low. This of course affected rates in other industries. In later years greater attention has been given to diversified farming and the establishment of industries using the products of the farm.

The South must have greater faith in itself and in its products. Too many of its people have an "inferiority complex" regarding Southern products fabricated in its own plants. They accept the proclaimed superiority of products from other sections and from foreign countries as a fact, although the South can produce and is producing quality goods. Often these goods are shipped outside to distributors and they come back under brands sponsored by outside concerns when like goods locally made are turned down by Southern buyers because they have been told repeatedly that the South cannot make goods equal to those produced elsewhere.

Other interests however have no misconception of the South's ability to produce quality products. Great industries doing a nation-wide business have established plants here. They know that the standard of goods made in their Southern plants is equal in every way to goods manufactured in other sections.

Donald Comer, head of the Avondale group of cotton mills in Alabama, in discussing wages and wage differentials before the recent conference of code authorities, called attention to the fact that the balance of trade against the South is over \$1,000,000,000 a year. Much of this expenditure is for processed foods and fabricated materials that the South is abundantly able to produce locally.

The South has a tremendous potential buying power, but Mr. Comer rightly believes that as it increases,

"the South wants a fair chance to supply a part of it from growing industries within its own borders." \* \* \*

"We believe that some of our fine boys and girls should have a chance for an industrial life without having to move entirely away from their own section. This is not a question primarily of whether the industrial wage shall be more or less in certain sections. It is a question as to whether there shall be an industrial wage at all in certain sections. If in the building of industrial codes today this question is not fully settled, the South will continue to overproduce raw cotton to be sold in the world market."

A fair wage differential is one that takes into con-

sideration this natural advantage of geographical location. Southern wage differentials that have always existed and under which many Southern industries have developed have been practically wiped out in some lines. The effect of this has been to increase the hourly rate of pay of Southern plants while the base rate remained the same in the North. This arbitrary setting of a higher wage rate for the South without a corresponding increase in the scale in Northern industries ignored an economic factor that has always been recognized. It is an unjust penalty against Southern industry and threatens the opportunity for employment of Southern workers at any wage if Southern concerns cannot absorb the cost.

As Mr. Comer says,

"it is known to all that such industrial development as we already have had its start because of certain local conditions and advantages. If these advantages are leveled down by code procedure not only will development stop, but there may come a drying up of what is already here."

Development of home markets should be the primary consideration. The South offers the greatest field for this development. In the proper utilization of its raw materials and in the building and equipping of manufacturing plants it could create a demand for capital goods that would bring about a revival of these industries conceded to be essential to ultimate recovery. Therefore, not only the South but the rest of the country has a vital interest in the expansion of Southern manufacturing. It will be adding to the wealth of the United States, creating work for American factories and transportation interests and American labor.

## NEW WEALTH

THE chemist, in his search for new wealth, constantly amazes the rest of us.

Thomas Midgley, Jr., Vice-President of the Ethyl Gasoline Corporation of New York, is the man who evolved knockless gasoline through the use of tetraethyl lead. In a speech at St. Petersburg, referring to a plant at Wilmington, N. C., which is extracting bromine from seawater, he said that "chemical science has accomplished the initial conquest of nature's great storehouse of minerals."

The commercial recovery of gold, silver and other precious metals from seawater, within the next decade, was discussed by chemists at this meeting as a definite probability. It was stated that \$1,000 worth of gold is flowing daily into Cape Fear River in the seawater from which bromine has been extracted. Mr. Midgley estimated the ocean's gold content at \$25,000,000 per cubic mile. He says while the gold content of seawater is many thousand times less than the bromine content, bromine sells for twenty cents a pound, but the price of gold has been raised to \$35 an ounce.

The chemical problems in gold recovery would be comparatively simple, the chief difficulty being the handling of such vast amounts of seawater on a paying basis.

# LIBERTY VS. COMMUNISM

By

**Josiah W. Bailey**

Senator of the United States from North Carolina

**T**HE people of the United States can emerge from the depression. There is a way out.

We have made some progress.



Its foundations are doubtful. These foundations are:

(1) Faith in President Roosevelt.

(2) Government Loan Expenditure.

(3) Suspension of gold payments.

Each of these is temporary in character. They produce temporary results only. The surprising advance within a year may all be lost as faith in the President shall be worn away, Government loan expenditure plays out, and currencies shall be stabilized.

The recovery so far—as indicated by increased car-loadings, increased cotton forwardings, increased automobile output, increased output of electrical energy, increased steel output—is in some degree artificial. But it may prove the foundation of real recovery. More substantial are the gains in exports.

## The Way Out

The question is, how may we proceed out of the depression:

1. Let the United States balance its budget. This is the foundation.

2. Let the United States put an end to excessive spending of public funds, confining its expenditures to providing livelihood for the unemployed on an economical basis.

3. Let States, counties, cities and towns reduce the tax burdens of their citizens and their businesses.

4. Let business, industry and agriculture be freed—freed of political meddling.

5. Let us proceed with loans to save homes and farms from foreclosures; and liberalize the conditions of loans to industries.

6. Let us encourage the production of wealth—in crops, in minerals and manu-

factured goods—by a policy encouraging business and the investment of money.

7. Let us stabilize our currency on a specie basis.

8. Let us look to Bank credit, which is abundant, rather than to Government credit, which is limited.

England is on the way out. Her thousand years' experience taught her to hold to her system, provide for the unemployed, balance her budget and stand the gaff. Her experience is a lesson to all nations.

America needed to do more. She has undertaken too much—much more than she can get away with. There are those who would mix Liberty with Socialism; but they will not mix. Let us stick to Liberty—the system upon which all our progress has been made, the only system that her people know; the system without which America would not be America.

## Un-American Restrictive Policies

It is un-American to prescribe by law what a farmer may sell, a manufacturer shall make or a consumer shall pay. And it will always be un-American. It denies Liberty, which is the breath of our Republic's life.

There is no half-way ground. We will stick to Liberty or go over to Communism. The half-and-half statesmen are working for Communism, whether they mean it or not. Who is not for Liberty is against it.

This is the land of Liberty—that is the land of the Rights of men,—the Right of Personal Liberty, the Right of Personal Security, the Right of Personal Property. These rights define Liberty. Give men Liberty and they will solve their problems. This is Democracy.

Let Russia, Italy and Germany deny Liberty and try it out. Let America cleave to Liberty and take the consequences. Freedom at least will be ours; and if we save Freedom from the wreck we save all things. For with Freedom we and our children may build; but without it we cannot.

The issue is not Capitalism vs. Socialism. The issue is Liberty vs. Communism. Capitalism is only an incident of Liberty, just as individualism is an incident of Liberty. On the other hand Socialism is only the incident of Communism. Let us do battle for Liberty in our land of Liberty.

The progress of the United States has for 100 years commanded the admiration of the world. That progress was

In These Days of the New Deal When There Is Being Shown All Too Much Favor to Radicalism, Senator Bailey Voices Clearly the Menace Confronting America. He Does What Critics Have Been Asked To Do—Suggests Constructive Alternatives in Place of Communistic Experiments. Read What He Says:

There Is No Half-Way Ground. We Will Stick to Liberty or Go Over to Communism. America Is the Land of Liberty—of the Rights of Men, the Right of Personal Security, the Right of Personal Property. These Rights Define Liberty. This Is Democracy.

made under Liberty. Shall we repudiate it just because for a period we have fallen into difficulties? Shall we forget that Liberty rescued us from difficulties in 1833, 1857, 1871, 1892? Wherein do we find argument that the denial of Liberty would serve us? Do we find it in Russia? Do we find it in Italy? Do we find it in Germany?

Let Americans know that when Liberty shall go, all things American will go with it. Religion will go, as it has gone in Russia; toleration will go as it has gone in Germany; manhood will go as it has gone in Italy.

Only those who are for Liberty are worthy to be called liberals.

The real reactionaries are the advocates of Federal centralization. They are not progressives. There is no progress without freedom.

There is a way out in America—it is the way of Liberty.



# A CITY WITH MONEY IN THE BANK

By  
**Howard W. Jackson**  
Mayor of Baltimore

**I**N recent months the City of Baltimore has been widely advertised throughout the Nation as "A Town With Money in the Bank." Newspapers and periodicals in many sections of the country have pointed to the fact that the year 1933 was closed with a municipal budget surplus (that is an unexpended appropriation balance) of more than \$950,000, and with approximately \$3,000,000 cash in bank.

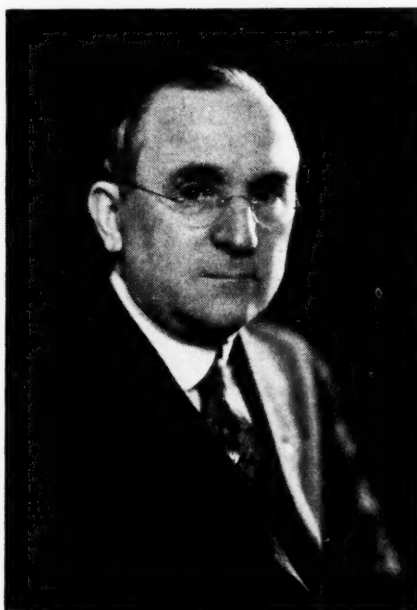
These articles have pointed to the fact that the tax rate for 1934 was reduced by 20c on the \$100, and that additional relief was given taxpayers by a reduction in the taxable basis over a three-year period of approximately \$365,000.

Editorial and news comment was also given to the accomplishment of Baltimore City in restoring contributions made from City salaries of less than \$1,200, with partial restoration of contributions for higher salaries; in increasing a budget provision for charitable purposes for 1934, and in setting aside the sum of \$500,000 to pay for certain capital improvements on a new "Pay-as-you-go" plan, when fixing its budget for 1934.

The question is now being asked as to how the City of Baltimore was able to thus successfully meet its taxation and financial problems during the most acute year of the depression. In this connection it should be pointed out that the present administration's accomplish-

ments are due to a definite, well organized and carefully executed program that began in May of 1931, following up basic reorganization plans that were made during my first term of office from May, 1923, to May, 1927.

Realizing that the proper administration of government can only be achieved after the financial facts of government have been plainly set forth, my objective has been, dating back to my first administration, to establish an accounting system for the City of Baltimore that properly reveals these facts. In April of 1932 there was created by ordinance the Bureau of Control and Accounts, in which was centralized the control and responsibility for the keeping and supervising of all financial records, and the preparation of all financial reports. Municipal accounting was



**Baltimore, Prominent in  
the Public Eye — A  
Remarkable Financial  
Record**

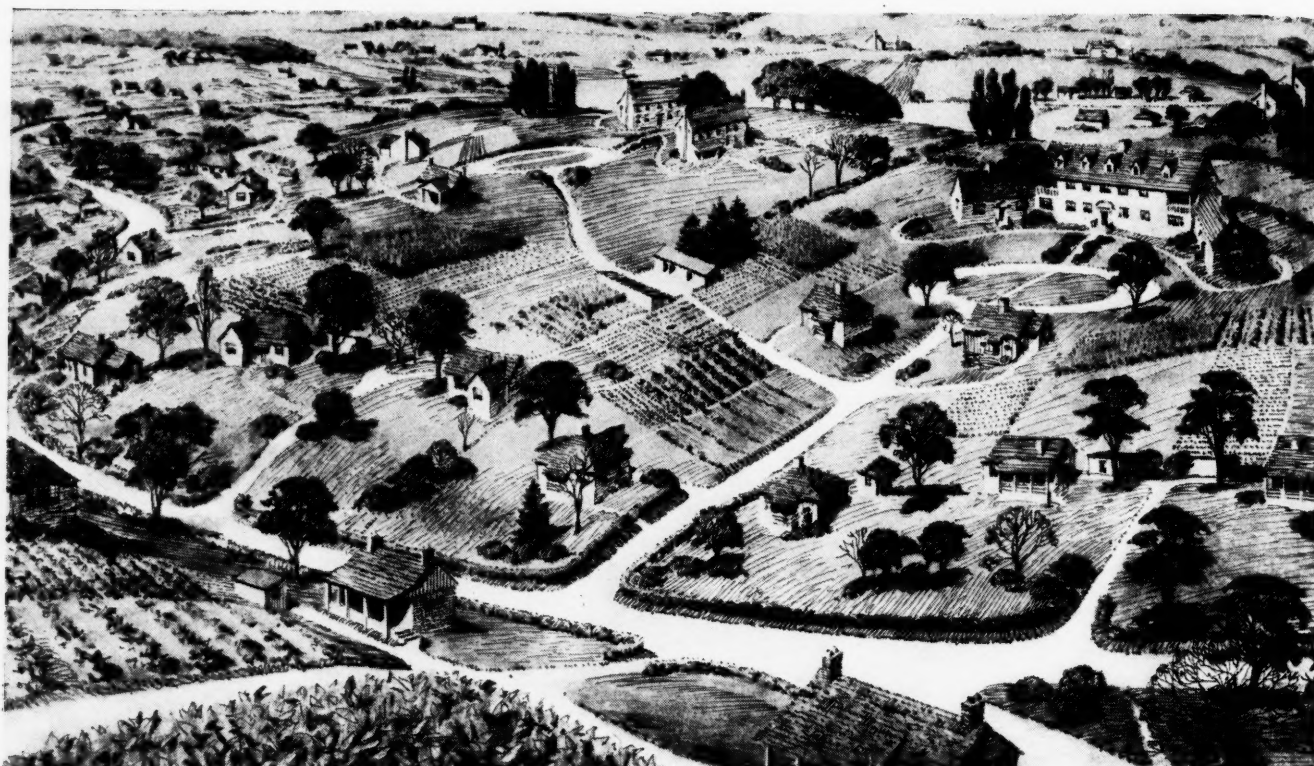
thus brought to a par with the accounting system in private industry. Our system of revenue accounting not only coordinates with our budget, and general accounting, but gives an absolute control of accounts receivable. The Baltimore disbursement accounting, with its provision for encumbering obligations as they are incurred, which also dovetails with our budget and general accounting, has been a matter of national interest, and our monthly report of receipts and expenditures in its present form has been most effective in the control afforded by it, and no doubt was in large measure responsible for the ability of the city to close the year 1933 with a budget surplus of almost \$1,000,000.

The Baltimore system further provides for unit cost accounting coordinated with the general accounting system, in which costs are allocated to the various activities in the respective department. Accountants of the Federal Government working recently with City employees in connection with P. W. A. projects, stated that the cost accounting system of Baltimore was the most complete, and up to date they had found in any municipality.

The City has also established inventory records of both consumable and permanent property, these records being subsidiary to and controlled by accounts in the general accounting system.

A report made under date of March 13, 1934, as of December 31, 1933, illustrates the effectiveness of the City's accounting system. This report, made by the Bureau of Controls and Accounts,

(Continued on page 58)



Town of Norris, Tenn., as it will appear

## BUILDING THE NEW TOWN OF NORRIS, TENN.

**O**N a high plateau, bounded by wide valleys, river bluffs and mountain ranges is being built the new town of Norris, Tenn., by the Tennessee Valley Authority. Salient features of this part of the Government program for the development of the Tennessee Valley have been outlined by Earl S. Draper, director of land planning and housing of the T. V. A.

The townsite has been laid out with winding roadways and irregular-shaped lots to fit the rugged nature of the terrain. Each lot varies from its neighbor, and monotonous gridiron street planning and checkerboard "rows" of houses have been avoided. The site chosen for the permanent housing community of perhaps 500 families covers an approximate area of 2,500 acres about four miles from Norris Dam on the Clinch River. Due to the natural conditions at the site the size of the town of Norris will be deliberately limited, and the great majority of the houses will be individual or single-family homes. These are supplemented by several apartment houses of moderate size, and a boarding house for single workers.

The community's initial and primary reason for being is to provide housing facilities for the force of workers during the Norris Dam construction period and in addition a permanent community fitting into the social, economic and traditional life of the region, both present and future. Further, it includes either natural barriers or sufficient excess land to form an unbroken protective zone to prevent fringes of hit-or-miss land use and "development" near the community. Finally, the location of the site offers opportunity for the introduction and practicable integration of seasonal local industry and a small-scale, but intensive and adequate farm economy in the working life of the community.

### A Complete Town Center

Following the completion of Norris Dam, the community will serve to house the permanent forces employed in the operation of the dam and its adjuncts, in reforestation and erosion control, and those in charge of the management of the adjacent T.V.A. properties. Within limitation, this community will serve the workers engaged in the various small industries and craft-shops which are expected to be one outgrowth of the T.V.A.

work-school system of guiding the native people into forming a body of skilled workers.

To serve the entire community, a complete town center has been laid out adjacent to a 14-acre public recreation ground or park. Here will be grouped the public hall and administration building, a small hotel, stores, public market, bus station and service garage and other community features as the need arises. Centered on the main axis of this group will be the public school and on a low ridge, somewhat isolated but easily accessible, is the hospital location. Small, neighborhood parks are also provided, as is a well equipped demonstration farm.

The utilities, such as waterworks, electric distribution station, steam laundry, and so on are relegated to nearby inconspicuous locations.

A complete water supply and sewer system, including a modern sewage disposal plant, is included in the plan. Water from Clear Creek Spring will be pumped into a high reservoir from which it will flow by gravity throughout the community.

All roadways will be graded and surfaced to prevent washing and costly upkeep. The use of street curbs will be eliminated, and gutters will be used only when necessary to lead storm water into

natural drainage channels. Instead of an expensive sidewalk system, improved paths, independent of roadways in most cases, will lead through the residential blocks. Street lighting will be adequate but not of the "white way" type. Electric service lines will extend along the rear boundaries of the lots and will probably be led underground to the houses they serve. Ornamental planting will be generous but simple employing native shrubs and vines merely to supplement the natural vegetation growth of the area.

In none of its aspects is this to be considered a "model" town development. In its broadest sense, it is an attempt to make rural conditions more livable for its inhabitants.

### Proper Housing a Feature of the Development

Residential designs are of a practical sort rather than romantic. They will be modern as to physical aspects and in both form and material the types are indigenous. At Norris the location of each house on its lot, averaging about one-third of an acre, is an individual problem. All of the houses are related to a uniform plan, but in such a manner that each one is given the fullest advantage of its individual location.

Throughout the Tennessee Valley region are old houses which follow well defined style as distinctive and appropriate as that found in any section of the country. The rugged chimneys and foundations of local stone, board-and-batten walls, wide porches and heavy, hand-split shingles of the houses of the Valley area are characteristic features

which are embodied in many of the new houses of Norris. Free circulation of air and abundant light throughout is sought in design of the structures and each house will be wired for complete electrification of equipment.

Even when built from the same basic plans, the houses will be varied in exterior appearance. In size they will vary from two to seven rooms, with three and four-room types predominating, and all of them are generously provided with porches. All of the rooms are of unusually large size when compared with those common to most rural houses in the region.

Throughout all of the houses, windows will be of the casement type, which permit full opening, and their tops will be close to the ceiling to afford maximum ventilation. Wherever possible, windows are placed in opposite walls to provide through ventilation directly across the room, and in every case they are located in at least two walls of every room.

Arrangement of kitchens and equipment has been given careful consideration. Electric ranges and refrigerators are to be furnished.

Practically all of the houses will be of the one-story type, but in many cases the attics may be converted into sleeping quarters. Large screened porches will

be usable for living, dining or sleeping purposes and the interchangeable screens may be substituted with glass for winter enclosure.

### Completely Electrified

Electric heating is a distinct feature of these houses. This innovation will eliminate cumbersome house-heating systems, reduce smoke and dirt and avoid the handling of fuel and ashes making service drives unnecessary. Electric domestic hot-water heaters are also to be provided. The unusually complete electrification is possible by the low electric rates established by the T.V.A.

Individual garages of the group or community type will be located within residential blocks.

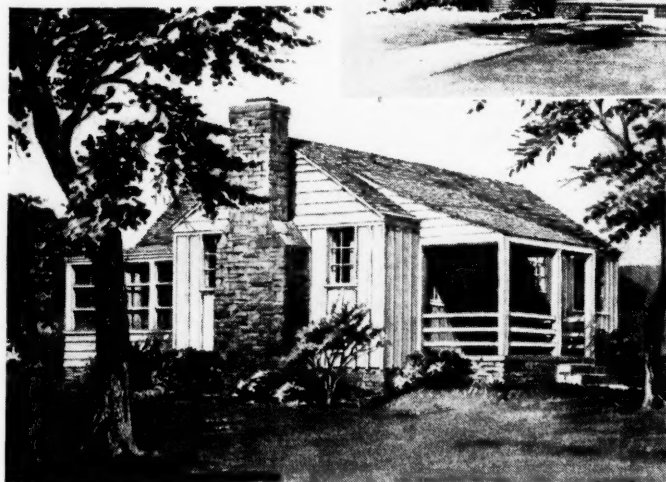
Aside from the new permanent town is the problem of quarters for the bulk of the workers at Norris Dam. In a way an integral part of the housing scheme, this construction unit is a feature in itself. Its primary purpose is to supplement the housing facilities of the permanent town during the construction of the dam and the incident development of the area, during which period a force of 2,000 workers will be employed.

The training shops for the work-school system—an important element in the T.V.A. program for raising the economic standards of the local workers—are to be located in buildings easily accessible by roadways from both the permanent residential area and the construction group.

This housing development of the T.V.A. is but one phase of a vast system of regional planning in the Tennessee Valley and the development of the whole area.

#### DESIGN NO. 34

Distinctive of "old house" style, wide board wall construction with rough siding used for gables



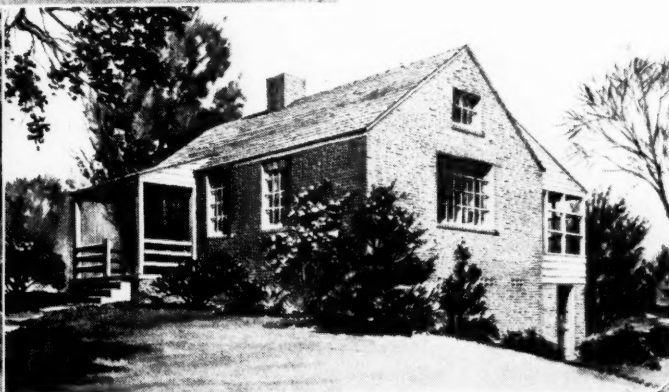
#### "BREEZEWAY" DESIGN D-1 TYPE

Brick construction, containing living room, bed room and kitchen. Large windows in outer walls insure thorough ventilation



#### DESIGN NO. N-2

Brick construction, living room, bed room, kitchen, bath, built in closets, and large screened porch in rear



# STUDYING FOREIGN COTTON SITUATION

**W**HILE the country is definitely committed to cotton curtailment in 1934, the Agricultural Adjustment Administration announces that future plans will be shaped in the light of developments both at home and abroad. The Bureau of Agricultural Economics has begun a study of cotton problems in various countries so that a long-time cotton program for the United States may be adapted to future trends in foreign production and consumption.

In urging cotton growers to reduce their acreage, the Department of Agriculture says it kept in mind the possibility that foreign cotton producers may change their production plans in response to the American policy. If foreign cotton acreage should go up as ours went down this country eventually would find itself holding a reduced share of the world's cotton trade. Last year, foreign cotton acreage increased about 13 per cent and production about 16 per cent and preliminary estimates indicate increased acreage this season. However, the Department of Agriculture still holds to the view that foreign cotton production will not increase sufficiently this year to jeopardize the American position.

It is pointed out that acreage reduction in the United States last year improved the supply situation materially, but the carry-over of American cotton at the end of the crop season remained greatly above normal. The Department asserts that as long as the United States has heavy cotton stocks to sell abroad, it has justification for a systematic effort to bring supply and demand into balance. Naturally, a program based on the existence of a surplus may not suit the situation that will exist after the surplus disappears or is greatly decreased. For this reason with the transition in the next year or two from the emergency to a longer-time program, it will be necessary to have a new cotton policy, adjusted to the necessity of retaining American predominance in the world's cotton trade.

From the inadequate data available it appears that foreign producers respond to price changes, though perhaps not as readily as do American cotton growers. In the period 1921-25, heavy boll weevil damage in this country caused cotton prices to rise greatly, reaching an ex-

treme maximum in 1923 of 31 cents a pound. The estimated foreign cotton acreage, excluding that of Russia, greatly increased under this unusual stimulus from 28,000,000 acres to almost 41,000,000 acres, or 46 per cent. Lower prices in the following two years caused foreign cotton acreage to decline to 36,000,000 acres. It is evident that foreign growers are able to make rapid increases in their acreage, in response to high prices. They have not been slow to increase acreage under the price stimulus given by our acreage reduction program. It must be noted that although foreign countries did reduce acreage following the price decline they did not return to the low point but kept the acreage at a higher level even when prices dropped to the lowest point in many years. It is true that in foreign countries cotton production encounters difficulties of climate, soil, labor, or transportation. No area in the world is so well adapted to cotton production as our Southern States. Government or semi-government action on the part of foreign countries has had much to do with the expansion of cotton acreage abroad since the war. But the cold fact is that we are now supplying but 54 per cent of the world's cotton.

Most of the expansion has taken place within the British Empire, as a direct result of efforts by the British Cotton Growing Association and the Empire Cotton Growing Corporation. These organizations acted originally to offset an expected shortage of cotton, a consequence anticipated from the depredations of the boll weevil in the United States. They have less incentive to activity when cotton supplies are ample and prices low. Cotton supplies have been ample for several years and as soon as the United States attempted to force prices up foreign growers began to increase production. The British Cotton Growing Association is even now promoting cotton production in various parts of the British Empire. India's cotton acreage in 1932-33 was 5,800,000 acres below the peak of 1925-26 but this drop might be restored although expansion beyond the peak acreage is believed to be more difficult because the cultivated areas are needed for food crops to supply India's 300,000,000 population. Egypt's 2,000,000 acres in cotton may be near the maximum without further irrigation and drainage. Central and West Africa have cotton expansion possibilities but are claimed to be limited by

climate, transportation, population, labor, lack of adequate varieties and insect pests and diseases. Future increases in some sections will necessitate large capital expenditures and will take several years.

Russia needs far more cotton than it produces. Russia may actually import American or other cotton during the next few years and will hardly be in a position to make any significant net exports. It is probably true that the market expansion in cotton acreage and production which took place in Russia a few years ago brought most of the land suited to cotton into production.

In China, as in India, the requirements of food production limit the cotton acreage. Transportation is expensive over much of China's potential cotton area. Efforts are now under way to overcome this difficulty but it will take time. China imports cotton to supplement her domestic production.

In attempting to gage the probable effect of price gains on foreign cotton production, the Agricultural Department points out that up to the present time, prices to foreign growers have not advanced nearly as much as they have to American growers. This is a consequence of our monetary depreciation. American currency has declined more than other currencies in foreign exchange during the last year. American cotton prices have advanced more than foreign cotton prices but the favorable influence of our monetary policy on the price of cotton cannot continue indefinitely.

It is necessary also to consider not merely the price of cotton but the price of some crops such as wheat and corn. If the American cotton adjustment program advances cotton prices materially during the next two or three years, it will probably increase the advantage of cotton over other crops. Such a differential would naturally encourage foreign cotton production, though it is doubtful whether it would do so to an extent sufficient to reduce permanently America's share in the world cotton market. Once cotton production is well established in an area, however, it is difficult to get growers to reduce or eliminate its cultivation because of the high per acre income it gives. Such factors will become increasingly important as cotton stocks decline and prices rise. There is a general tendency for foreign cotton production to increase as new cotton areas are developed and old cotton areas are commercialized. Sooner or later the American cotton policy will have to take these facts into reckoning.

# EMPLOYEE REPRESENTATION AND THE WAGNER BILL \*

By

**Charles R. Hook**

President,  
The American  
Rolling Mill Company  
and  
Vice President of the  
National Association of  
Manufacturers

**A** BILL is pending in the United States Senate, introduced by Senator Wagner of New York, and ostensibly intended "To equalize the bargaining power of employers and employees, to encourage the amicable settlement of disputes between employers and employees, to create a National Labor Board, and for other purposes."

I oppose the Wagner Bill because I believe it would destroy the cordial relationship between employers and employees. I don't want to be a critic without an alternative. I hold that we have all the legislation in the National Recovery Act that is needed for satisfactory employee relationship. If there are offenders under that measure, let them be dealt with, but if all business is to be put on the anxious seat continuously by widespread effort to deal only with a few offenders, this country is bound to lag behind the world procession out of the depression.

I am in entire accord with any just plan calculated to bring about industrial peace. However, from a very careful study of the bill and my own experiences as a workman, foreman, superintendent, and manager over a period of 35 years, during 28 years of which I was closely and directly connected with negotiations and operations under agreements with the Amalgamated Association of Iron, Steel and Tin Workers, an affiliate of the American Federation of Labor, I am convinced that the effect of this bill would be to destroy the very thing it is declared to be its policy to accomplish, namely, the establishment of industrial peace and industrial democracy.

I feel that I am qualified to speak from the standpoint of experience and knowledge. In the summer of 1904, while superintendent of a sheet steel plant I reached, from hard experience, definite conclusions with respect to employee and employer relationship under a

national union agreement. I came to the conclusion that the best way to prevent grievances and disputes was through local plant representatives elected by the employees of that plant through a secret ballot and dealing with the management directly and with real knowledge of plant conditions.

The local union of the Amalgamated Association of Iron, Steel and Tin Plate workers had what was known as a "Mill Committee." I soon found that this "Mill Committee" was nothing but a grievance committee. It operated only when, as and if there was a grievance. I was convinced then, as I am now, that the best way to prevent grievances and disputes is for management to meet representatives of their own employees regularly and in the spirit of friendship and goodwill to discuss and consider problems of mutual interest, in order that they might arrive at fair and sound conclusions before situations develop into serious grievances and lead to disputes.

I wish to avoid irrelevant details but I feel that my experience has been duplicated many times throughout industry. The employers of America who throughout the years have raised the standards of our working men to the highest levels on earth resent the attempts that have been made through every form of propaganda to label every employee representation plan as a company union, implying that they are dominated by employers.

This was effectively answered by General Johnson, the distinguished Administrator of the National Recovery Act and his General Counsel when on February 4, after months of experience with the Administration, they said in a public statement that "There is no evidence that employees' representatives in all company unions are chosen by employers." "Nor is it true," their statement added, "that employees if permitted to act in their own free choice may not select a company union (meaning local plant union)."

From the summer of 1904, when I asked the union to elect the first committee, termed for the want of a better name "an advisory committee," until this day, there has been elected each year, by secret ballot, committees in every department of every plant, with the result that in the 35 years of the existence of the company which it is my privilege to represent, we have never, to my knowledge, had a dispute with our

own employees which has resulted in the loss of one day's work in any department in any plant.

Undoubtedly the most conclusive evidence that our men believed they had been fairly dealt with, and had confidence that this same fair dealing would be continued, occurred in the Middletown sheet mill department in September, 1929. The Middletown plant had been completely rebuilt and a continuous sheet mill installed, entirely changing the manufacturing processes in the sheet mill department. In June of that year an agreement had been prepared and submitted to the sheet mill men. It was finally adopted and signed by the Advisory Committee of that department, as at that time no one, including the Amalgamated officials themselves, was able to write a scale adaptable to the new process. National officials of the Amalgamated Association were present when the new agreement made direct with our men was signed. Some sixty days after the new plan had been in successful operation, those officials returned to Middletown and endeavored to get the workers in that department to abrogate their agreement, which they refused to do.

On the 18th day of September the national officials of the Amalgamated Association of Iron, Steel and Tin Workers ordered the men to strike and to their everlasting credit be it said, the men were faithful to their trust and refused to go out. These men had been loyal members of this national union for many years, but this attempt of their national officials to bring dishonor to them settled the fate of the Amalgamated Association in our plant.

I bring this to your attention because of statements by some union officers that plans of employee representation, many of which have been in existence for years, are dominated and controlled by company officials.

I deny the truth of these statements and challenge the supporters of this bill to urge upon Congress a thorough and impartial investigation by a qualified Congressional committee authorized to report upon the entire field of employment relations as contained in a petition presented to Congress at the opening of this session by the National Association of Manufacturers. The manufacturing employers of the Nation have nothing to fear from such an investigation and to the contrary welcome it as a means of bringing to light all the facts regarding the methods used by union organizations to obtain memberships. There has been

(Continued on page 58)

\* An address broadcast over NBC hookup March 21.

# MODERN CITY PLANNING

John W. Manning, Ph. D.

Associate Professor of Political Science  
University of Kentucky

**T**HE continual and constant increase in the number and size of cities or towns in the United States presents a complicated problem. This problem is largely a matter of city planning. The development of manufacturing and trade has been the prime factor in the rapidity of urban growth. More and more people have come to live in the city in order to be near the factories, shops, and offices. "Reduced to the very simplest elements life in a city may be expressed in terms of places of work and places for people to live, and the means of transportation between them, and since life cannot contain all work and no play, we must have places for recreation as well as workshops and homes." In order that these people in our cities may have the fullest measure of health, wealth, and happiness, some arrangement for the convenience and comfort of the groups must be considered—hence, city planning.

A city is more than a group of blocks separated by streets. It is more than the buildings on these blocks and the

public or private properties of these streets. A city is a living, moving, developing and growing social organism, composed of life, all kinds of it, which will grow and develop whether or not a plan is proposed for that growth. A city is a physical concept, but it is more than that; it is a social organism. Anything which is done to improve the physical characteristic of a city has its effects upon the social welfare of the people of the city. And any improvement or change made in the physical character of a city should be made in order to improve the social character. With this thought in mind, we might consider the question: What is City Planning? "City planning simply means getting ready for the future in city growth. It is the guidance into proper channels of a community's impulses toward a larger and broader life. On the surface it has to do with things physical—the laying out of streets and parks and rapid transit lines. But its real significance is far deeper; a proper city plan has a powerful influence for good upon the mental and moral development of the people. It is the firm base for building a healthy and happy community." A city plan anticipates the city's future and provides the means by which this future may be met. Planning may be defined as the scientific anticipation and the orderly and harmonious development of a city as a physical, com-

mercial, architectural, and social unit. Its purpose is to avoid in the future the mistakes of the past, to correct as far as possible the existing errors, to promote urban efficiency and convenience, thus reducing city waste and lowering the cost of urban development; and to further the attainment of the ideal city "where men live a common life for a noble end."

City Planning is concerned with all activities of a city. Nothing in which may conceivably become a part of the city or affect the city's future can logically be excluded from its field. It is concerned with engineering problems, sanitation, economics, law, and finance. It includes the layout of streets and the regulation of traffic upon them, the rearrangement of railroad right-of-ways, docks, terminals, the designing of water, sewage, and lighting systems, the grouping of public buildings, the enlargement and arrangement of recreational facilities, the regulation of private properties in the interest of health, safety, morals, and general welfare. Since all these considerations find their places in a city plan, the city planning department ought consequently to be the focusing point for every branch of municipal administration. All the elements of a city plan may be reduced to three: (1) the means of circulation, including the distribution and treatment of spaces devoted to streets, railways, waterways,

## Washington, D.C., an Example of City Planning

How city is supposed to look in future is shown in this model by the National Capital Park and Planning Commission. Famous Mall

area, extending from the Lincoln Memorial to the Capitol in the distance, as it will appear when all the new Federal buildings and their associated landscaping are completed.

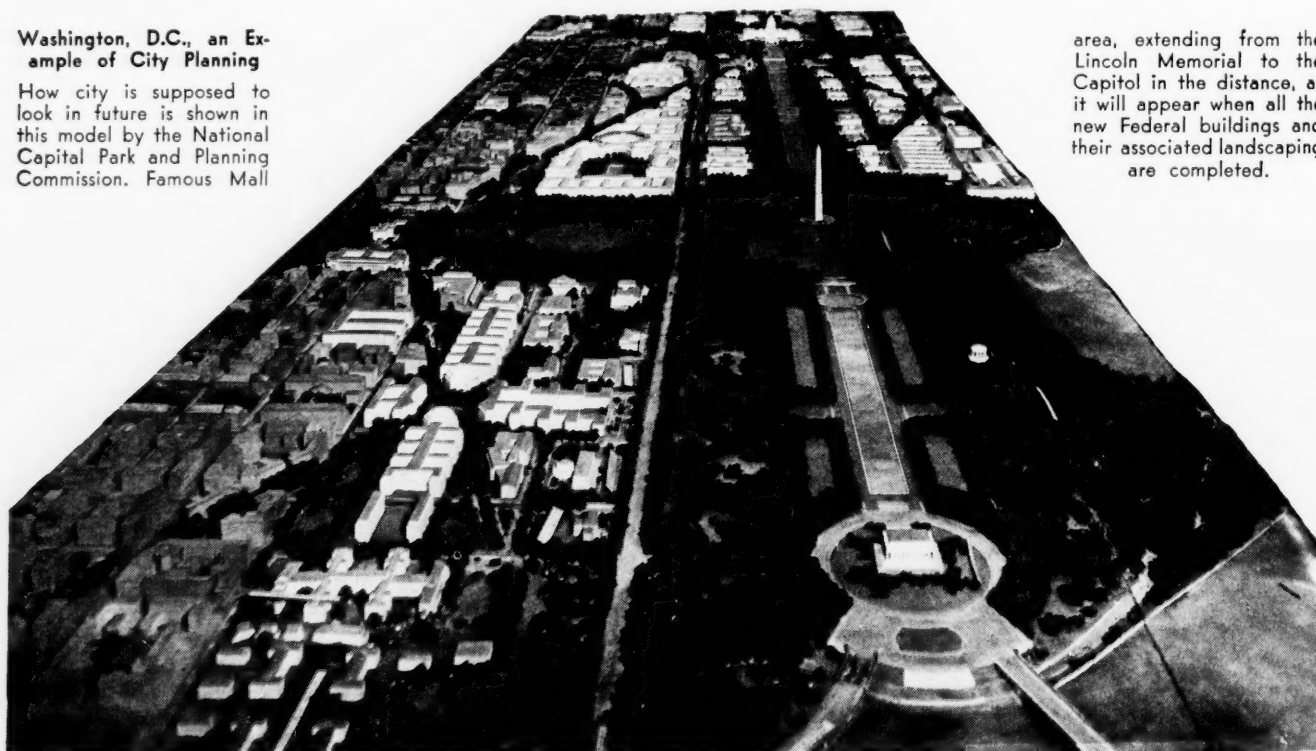


Photo Underwood & Underwood



#### Modern Mill Village

Beauty Combined With Utility in This Planned Industrial Community Located in the Rolling Hill Section of the South

and all other forms of transportation and communication; (2) the distribution of spaces devoted to other public purposes, such as parks and public buildings; and (3) the remaining or private lands and the character of their development.

There are two popular misconceptions of city planning that should be exploded in the beginning. The expression, "City Beautiful" has found its way into too many discussions of the subject, and as a result many people have the notion that city planning is largely, if not altogether, concerned with physical beautification—wider streets, improving public buildings, elaborate civic centers, and more and larger parks. But city planning goes farther than mere beauty. Its purpose is rather convenience and comfort.

Another more or less superficial, if not totally inadequate, idea of city planning is what properly might be called the correction of mistakes, or the remedying of defects due to a lack of proper planning. This replanning would certainly include the "designing of spectacular effects in the grouping of public buildings, the creation of civic centers," the establishment of large open spaces, the straightening and widening of streets into broad avenues, the rearrangement of transit facilities and terminals, or rather the complete making over and rebuilding of the city. Granted that this is the work that must be considered in a great many instances of city planning, it is not the fundamental work of the city planner. The basic objective in city planning should be the avoidance of the necessity for the reconstruction of the city, and reconstruction which is always costly. Real city planning does not involve heavy outlays, but of course the

cure of an existing disease is, in most cases, more expensive than its prevention. Real planning is not simply making the city more beautiful, but rather making it more convenient and more comfortable. It is not simply correcting the mistakes of the past, but rather the prevention of mistakes in the future.

There is an idea prevailing among the uninitiated that planning and zoning are one and the same thing. Zoning is planning, but planning may not be zoning. Zoning is only a part of planning. If we recall the three elements of a city plan mentioned above, we notice that the third is the only one which includes zoning. Zoning regulates the development of private property, chiefly by imposing restrictions on the bulk, location, and use of buildings erected on land. Zoning tends to be negative, and says, "Thou shalt not", while planning, which considers both the development of public and private property, is positive, and says, "Thou shalt", but according to this model, which will insure the proper development of all the features of a city.

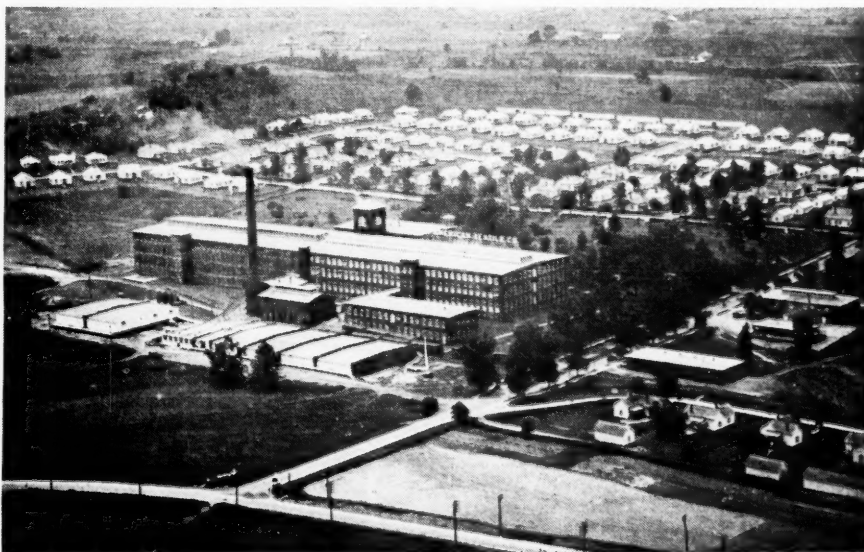
Zoning is the application of the police power, while planning is a more comprehensive and inclusive term, and involves the application of common sense to city development. A city is not completely planned unless it has both a city plan and a zoning ordinance. Zoning alone is only going one-third of the way.

What will city planning do for a town? In short, it will make it a better place in which to live. One hears the statement sometimes that his city or that city has a city plan, and it is no better off than my town. Perhaps it is not, but which will be in a better condition in fifty years—the planned or unplanned town? The argument reduces itself to this question—is it better to make plans for the future, or simply to let the future take care of itself, and live only for the present? The answer is obvious.

With the modern growth of cities, planning and zoning is the only salvation for the large city. It is not a luxury but a necessity for the large city. But how about the smaller town; does it need to be planned and zoned? The small town is the logical community to plan. Planning in too many cases has come to mean merely a correction of mistakes, and not a prevention of possible errors. In the case of a small town, we may plan, in the true meaning of the word. Why wait until mistakes have become more or less permanent before we try to correct them—the wiser plan would be to begin the direction of city growth while the city is small. It has been said that city planning should begin whenever two roads or streets cross; the mold for future development is then made.

#### Complete Industrial Unit

Many Southern Mill Communities Have Been Planned to Secure the Most Advantageous Grouping of Plant, Operatives' Homes and Servicing Buildings



# WHOLESALE PRICE TREND

**C**OMMODITY prices have been rising steadily since the low point of February, 1933. They are now about 74 per cent of the 1926 base. In building materials and products entering the construction industry the average wholesale price has advanced to over 86 per cent. The food products average price is over 67 per cent of the 1926 level.

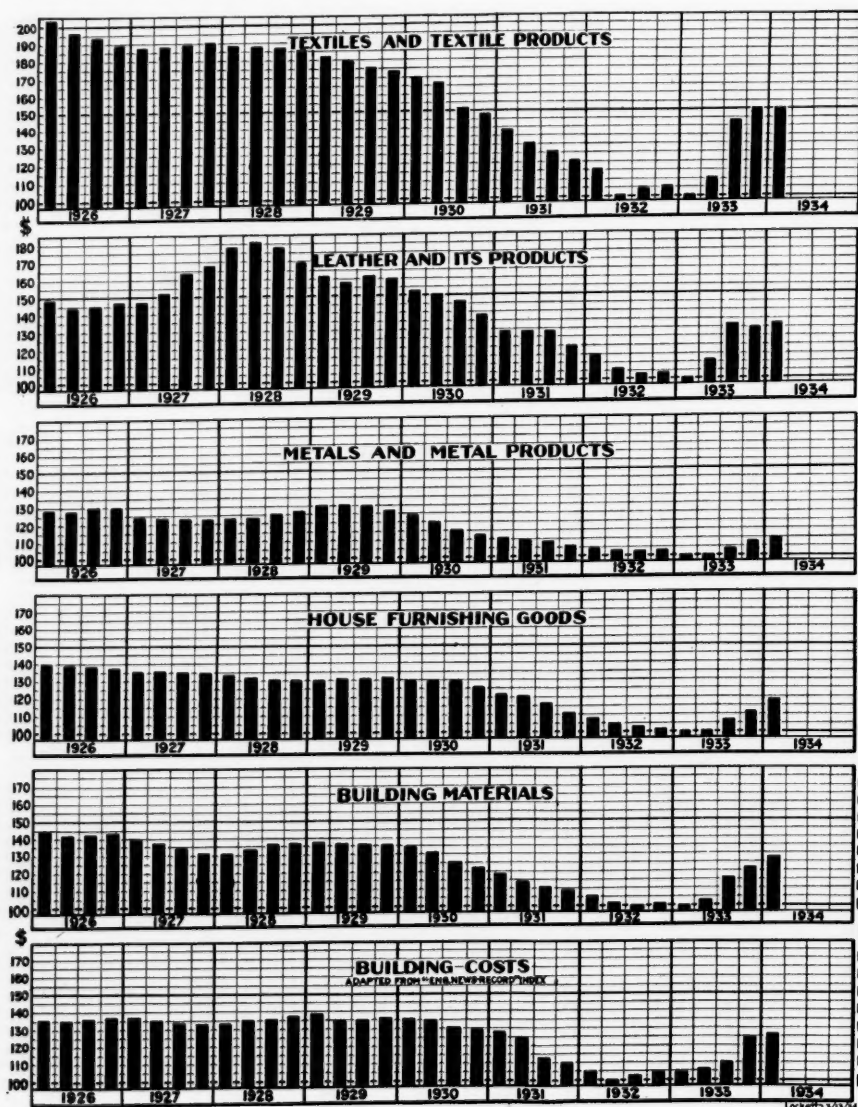
The latest monthly report issued by the Bureau of Labor Statistics showed that wholesale commodity prices for the month of February increased to 73.6 per cent of the 1926 average as compared with 72.2 for January. The February index for all commodities is 23 per cent over the February, 1933, index

number (59.8) which was the post-war low point. The increases which have occurred during the past twelve months range from 6 per cent for the chemicals group to a 50 per cent gain for the farm products and textile groups. The present average is the highest that has been reached since April, 1931, when the commodity index number was 74.8.

Building materials have advanced in price 24 per cent over February a year ago. The metals and metal products group registered a 13 per cent rise over the low point reached in April, 1933. Furniture and house furnishing prices are 12 per cent above February, 1933, averages. The fuel and lighting group,

## Commodity Prices and Building Costs During Past Eight Years

Indexes translated into dollars per assumed units of quantity for each \$100 cost



coal, petroleum, gas and electricity, now up to 72.4 of the 1926 average is nearly 14 per cent higher than in February, 1933, and approximately 20 per cent above the low point reached in May of last year, when the index stood at 60.4.

The accompanying chart, showing the long term commodity price trend, has been prepared by H. W. Lockett, supervising research engineer, of The America Fore Group of Insurance Companies:

The Continental Insurance Company  
American Eagle Fire Insurance Company  
Fidelity-Phoenix Fire Insurance Company  
First American Fire Insurance Company  
Niagara Fire Insurance Company  
Maryland Insurance Company of Delaware  
The Fidelity and Casualty Company

The price trends are the combined averages of many individual commodities, some of which have a price actually above or below the price trend of the whole group. The composite result charted in each group, however, gives a fairly accurate picture of the price trend for each commodity composing the group and may be used as a general guide by business men and home owners when checking present day values with the amount of insurance in effect on their property.

The following tabular matter presents the index number of wholesale prices for principal commodities and groups in February, 1934, 1933 and 1932 compared with the 1926 price base of 100.

## Index Numbers of Wholesale Prices

(February Percentage of 1926 Price Base of 100, compiled from Bureau of Labor Statistics).

	February		
	1932	1933	1934
Commodity Groups			
All Commodities	66.3	59.8	73.6
Building materials	73.4	69.8	86.6
Brick and tile	79.3	75.1	87.2
Cement	75.3	81.8	93.9
Lumber	62.9	56.4	87.3
Paint and materials	75.1	68.0	79.3
Plumbing and heating	65.8	59.4	72.7
Structural steel	77.9	81.7	86.8
Metals and Products	80.9	77.4	87.0
Iron and steel	79.3	77.3	86.3
Nonferrous metals	52.7	46.2	65.8
Motor vehicles	95.3	90.9	97.8
Agri. implements	85.1	83.1	85.2
Fuel	68.3	63.6	72.4
Anthracite coal	94.8	88.7	81.2
Bituminous coal	84.3	79.4	91.1
Coke	80.4	75.2	83.5
Petroleum	38.6	34.3	50.3
Housefurnishing goods	77.5	72.3	81.0
Furniture	79.5	71.9	79.2
Furnishings	75.9	72.9	83.0
Chemicals	75.5	71.3	75.5
Fertilizer materials	69.8	61.5	69.2
Mixed fertilizers	73.7	62.4	72.5
Drugs	60.1	54.8	71.5
Textile products	59.5	51.2	76.9
Clothing	69.4	61.2	87.2
Cotton goods	56.4	49.1	88.6
Knit goods	55.8	48.3	67.0
Silk and Rayon	36.5	25.6	31.0
Woolen goods	63.1	53.2	84.3
Farm products	50.6	40.9	61.3
Grains	46.1	32.7	63.2
Livestock and poultry	50.3	40.1	48.2
Foods	62.5	53.7	66.7
Milk and products	64.1	52.4	69.1
Cereals	69.6	60.4	85.7
Fruits and vegetables	61.8	52.4	71.7
Meats	59.5	50.2	53.3
Hides and Leather	78.3	68.0	89.6
Boots and shoes	88.5	83.3	98.4
Hides and skins	46.1	40.9	78.0
Leather	76.5	55.3	80.1
Paper and pulp	76.7	72.1	82.7
Raw Materials	56.9	48.4	66.0
Semi-manufacturers	61.9	56.3	74.8
Finished products	71.4	65.7	77.0

# STEEL DRUM GATES TO PANAMA

**T**HE Virginia Bridge & Iron Company recently manufactured four drum gates of unusual design which were shipped to the Panama Canal Zone for use by the United States Government in constructing the Madden Dam on the Chagres River. During the wet season there have been serious problems of flood control on this river. The Madden Dam is about nine miles from the Canal and it is to provide for greater reserve water supplies and also provide for more adequate flood control, and a very important by-product will be considerable water power which is to be used to generate electricity for the needs of the Canal Zone.

The Drum Gates, which the Virginia Bridge & Iron Company have supplied, fit into four openings at the top of the Madden Dam, and may be likened to enormous valves which raise and lower so as to control the flow of water. The main operation of the gates is by automatic control mechanisms. The gates and control mechanisms are set for the desired water elevation in the reservoir. And in case any rise of water occurs above this point, the gates automatically lower until the water level is down to the proper elevation. Likewise, if the inflow into the reservoir decreases and the water surface lowers, the Drum Gates automatically rise a proportionate amount shutting off the flow from the dam until the reservoir level is brought back up again. In addition, there is both electrical and manual control operation of the gates for emergen-

cy use. The gates have a cross section which permit of raising or lowering the water in the reservoir a maximum of 18 feet.

The accompanying view shows one of the four gates being fitted together in the Roanoke, Va., plant of Virginia Bridge & Iron Co. The gate as shown is in its fully raised position. The back is the up-stream side, and the gate is hinged to the masonry of the dam at the back bottom corner. Each gate in its up-position exactly fills a rectangular opening in the dam 100 feet long. In the masonry under each gate there is a chamber down into which the gate lowers, pivoting from the hinged point. The curved down-stream face of the gate works against a bronze seal on the masonry, contacting it at all points of elevation. Likewise the ends of the gates work against water sealed contacts. When fully lowered, the gate is so designed to conform to the contour of the masonry and present no obstruction to the free flow of water through the opening.

As indicated, the gates are 100 feet long, have an overall height of 20 feet, and including hinged castings, etc., weigh 350 tons each. Each gate has 43 cast steel hinges which fasten to corresponding hinge castings tied to the masonry. There are 43 bronze hinge pins each 4" round by 13 1/4" long, which hold each gate in place. The main outside face of each gate is made of 5/8" plate. All rivets on this face, and there were thousands of them, had to be countersunk and chipped in order to provide the necessary smooth water-seal contact. Incidentally in each of the gates there are 41,100 rivets, a great many of them countersunk as noted. In addition

there is considerable welding, especially of the outside skin plates where they abut, this, of course, largely to insure complete water tightness.

The inside of the gates is made up of 39 transverse ribs spaced about 2'-4" apart for the entire 100' length. These ribs are plate girders, three-sided, of course, and shaped to the exact dimensions and curves of the gate. The first operation of manufacture was to cut, punch, bend and rivet the various individual pieces. All holes for connecting together in the field were punched undersize, and the gates were then assembled and fitted together. After all dimensions and curves had been carefully checked and proven, the field-connecting holes were then reamed to full size. All pieces in the gate were then match-marked so as to insure reassembly at the job in exactly the same manner. This same procedure was followed for each of the four gates.

As a further aid to the proper reassembly of these gates at the job, certain employes of the Roanoke plant of Virginia Bridge & Iron Co., who worked on the shop fitting and assembly, have been engaged by the General Contractors to go to the Canal Zone to assist in the erection of the gates at Madden Dam.

These gates were designed by the United States Bureau of Reclamation in collaboration with the Engineering Staff of the Panama Canal, and all work was supervised and inspected by Government Engineers and Inspectors.

## A Plan to Encourage Building

STEWART-MELLON Co.  
ORLANDO, FLA.

EDITOR MANUFACTURERS RECORD:

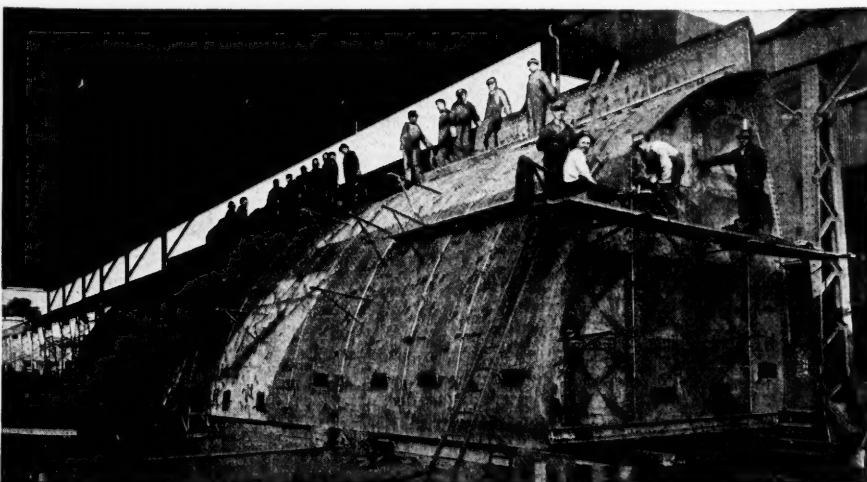
If expenditures for new construction could be deductible from income it would promote the building industry and put money into circulation. The revenue from the income tax that the Government would lose would be offset by the amount it is now spending to keep people employed and eventually would afford another source of revenue to the Government through the profits that are made by the building industries.

There are thousands of individuals and corporations who would spend this money for new construction as they would feel that they were getting the work done at approximately eighty cents on the dollar.

JOHN R. GRAHAM,  
President and Treasurer.

An amendment to Florida's constitution is now proposed to permit homes and homesteads valued at \$5,000 and under to be exempt from taxation as a means to stimulate building and home ownership.

Details of Construction of the Drum Gates for the Madden Dam



# CONSTRUCTION AT HIGHEST POINT IN THREE YEARS

**C**ONTRACTS awarded for construction, building and engineering projects in the sixteen Southern States during the first quarter of 1934 reached a total of \$143,014,000, as compared with \$65,559,000 and \$52,970,000 for the corresponding periods of 1933 and 1932, respectively. This summarization is based on construction items published in the MANUFACTURERS RECORD DAILY CONSTRUCTION BULLETIN.

March awards of \$48,656,000, compare with valuations of \$45,488,000 and \$45,870,000 for February and January, respectively, and the contracts let last month are more than double the March, 1933, awards of \$18,697,000. In February, 1933, awards were \$27,390,000 and in January, 1933, only \$19,472,000.

Awards in the first quarter of this year exceed by 118 per cent the valuation of contracts let in the like period of 1933. March awards exceed by more than 160 per cent the valuation of contracts let in the same month of the preceding year.

In addition to the large volume of construction work put under way in the closing months of 1933, coupled with the

increase for the first quarter of this year, there is in sight a sizable volume of projected new construction still in the "planned" stage, represented by the total for contracts to be awarded announced to April 1 of \$274,948,000. While a portion of this amount, particularly that represented projects initially announced in January, has been put under contract the major portion is yet to advance to the "bids asked" stage.

Considering the amount of money involved road, street and bridge construction holds first place, awards piling up a total of \$60,156,000 in the three-month period, representing successive monthly gains. In January the total for this classification was \$19,941,000, in February \$20,040,000 and last month was \$20,175,000. With the return of favorable weather conditions work will not only be resumed on many projects initially put under way last year, but on the strictly 1934 projects so that in the aggregate work will be provided for an army of men directly on field operations, besides it will stimulate employment in widely scattered factories turning out road-building materials and equipment.

A feature of the South's road-building program is the number of costly bridges,

ranging in contract price from \$500,000 to over \$7,000,000. A number of toll structures are included in recent lettings. Besides structures that form links of State highway routes Southern towns and cities are undertaking the construction of new bridges to facilitate the movement of traffic as well as widening, strengthening and otherwise fitting old structures to adequately carry the high-speed, heavy-duty traffic of the present and immediate future.

Awards for industrial and engineering projects—including dredging, filling stations, garages and bus terminals, levees, revetments, dikes and like flood control projects, as well as sewers, drainage, irrigation projects and water works—amounting to \$39,602,000 in the three-month period, place this classification second only to road-building.

A number of notable industrial enterprises go to make up the impressive list of projects of the character under way, recently completed and projected. A survey discloses the growing importance of the chemical industry in the South. The textile industry is rounding-out its development, installing more efficient machinery to replace obsolete production units and otherwise equipping its plants to cut production costs, despite higher wages and less hours to the work-week.

Costly new breweries and distilleries as well as expansion programs at established plants of this kind have recently been completed, are under way or projected. Calling as they do for elaborate power plant equipment—boilers, stokers, pumps, steam-electric generating plants—ice and refrigerating machinery, storage tanks of many types, air conditioning units and a varied assortment of machinery and supplies work is not only provided at the site of operations but in widely scattered industrial plants.

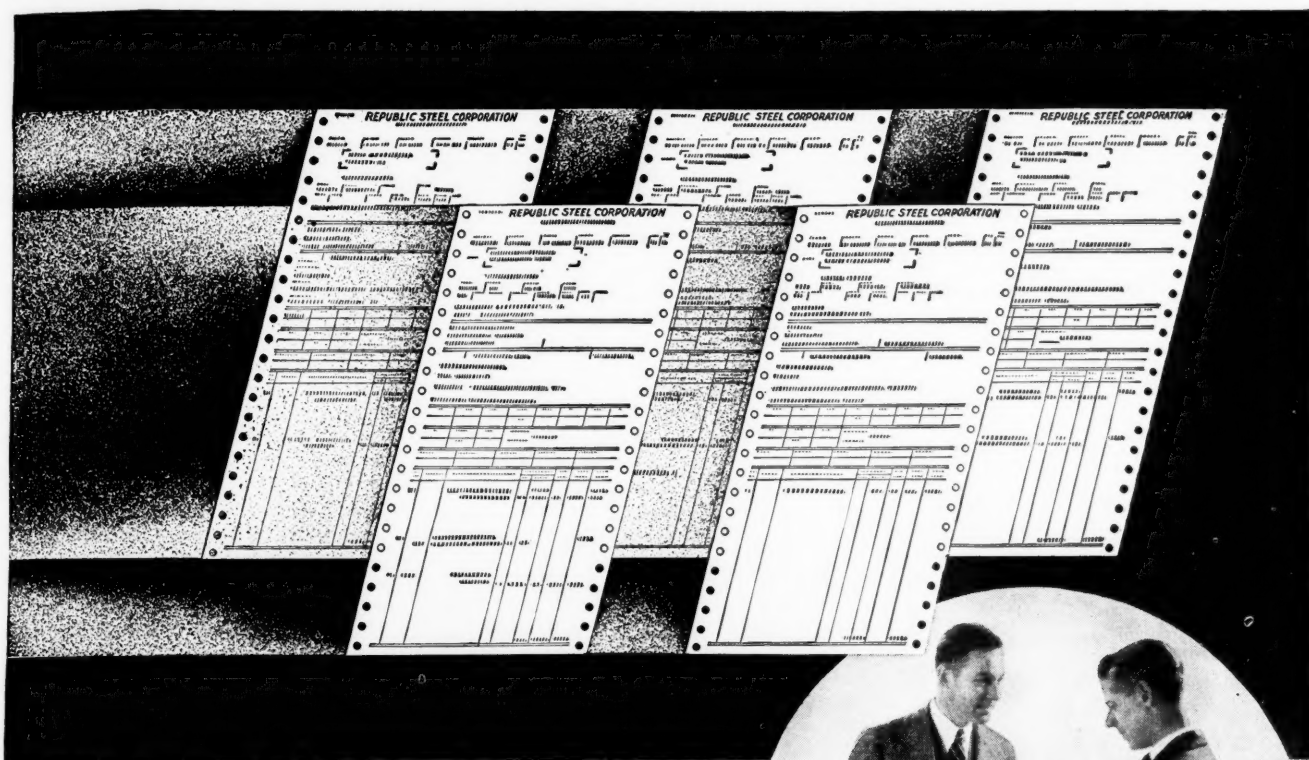
Through the readjustment period the petroleum industry has concentrated on the refinement of its manufacturing processes, calling for the erection of new refineries or the rebuilding—in line with modern practices—of entire plants—designed primarily to produce at low cost motor fuels for high-compression engines of modern motor cars. Plants for extracting gasoline from natural gas stand out prominently in the expansion program. Bulk oil storage and distributing plants along waterways and highways, are factors in effecting distribution cost cuts.

Engineering projects—flood control works generally, ambitious irrigation projects, and sewer, drainage and water works—loom large in the South's 1934 construction program.

## Southern Construction Activity for March and First Three Months of 1934

	First Quarter, 1934		March, 1934	
	Contracts Awarded	Contracts to be Awarded	Contracts Awarded	Contracts to be Awarded
<b>GENERAL BUILDING</b>				
Apartments and Hotels .....	\$653,000	\$6,793,000	\$235,000	\$6,413,000
Association and Fraternal.....	90,000	295,000	.....	140,000
Bank and Office .....	185,000	1,075,000	35,000	935,000
Churches .....	457,000	547,000	135,000	325,000
Dwellings .....	4,782,000	13,072,000	1,886,000	1,573,000
Stores .....	1,341,000	2,010,000	655,000	1,345,000
	<b>\$7,508,000</b>	<b>\$23,792,000</b>	<b>\$2,946,000</b>	<b>\$10,731,000</b>
<b>PUBLIC BUILDINGS</b>				
City, County, Government and State .....	\$28,260,000	\$28,612,000	\$6,096,000	\$11,276,000
Schools .....	7,488,000	34,086,000	2,764,000	7,693,000
	<b>\$35,748,000</b>	<b>\$62,698,000</b>	<b>\$8,860,000</b>	<b>\$18,969,000</b>
<b>ROADS, STREETS and PAVING</b>	<b>\$60,156,000</b>	<b>\$42,586,000</b>	<b>\$20,175,000</b>	<b>\$9,594,000</b>
<b>INDUSTRIAL and ENGINEERING PROJECTS</b>				
Dredging .....	\$4,625,000	\$21,691,000	\$4,404,000	\$9,135,000
Filling Stations, Garages, etc.	340,000	1,453,000	60,000	1,020,000
Industrial Plants .....	13,661,000	65,803,000	6,070,000	16,457,000
Levees, Revetments, Dikes, etc.	9,612,000	7,174,000	771,000	4,352,000
Sewers, Drainage and Water- works .....	11,364,000	49,751,000	5,370,000	11,557,000
	<b>\$39,602,000</b>	<b>\$145,872,000</b>	<b>\$16,675,000</b>	<b>\$42,521,000</b>
<b>Total .....</b>	<b>\$143,014,000</b>	<b>\$274,948,000</b>	<b>\$48,656,000</b>	<b>\$81,815,000</b>

By means of Bell System Teletypewriter Service, orders and reports are teletyped between offices on the subscriber's own forms



## IT PAYS FOR ITSELF



MANY companies installing Teletypewriter Service find *it pays for itself* in the economies it makes possible.

Form writing is one of its several cost-cutting features. By this method, two separated offices not only can communicate instantly with each other in writing, but they can make identical copies at each end of the connection . . . on similar printed forms of orders, invoices, shipping reports, etc.

For the Republic Steel Corporation, this (1) eliminates errors, so costly where large orders are in the process of production; (2) eliminates retyping; (3) saves time of office and plant employees; (4) promotes better production control; (5) eliminates checking and other steps and speeds up the whole procedure of handling orders; (6) makes it possible to absorb

additional orders without increasing the cost in proportion.

"The savings over former communication costs, together with those resulting from the elimination of certain steps in order routine, are almost enough to pay for our entire teletypewriter system," says an official. "But probably more important are the immeasurable benefits, such as better service to our customers and the increased efficiency which comes from closer co-ordination between our many units."

Smaller companies profit from Teletypewriter Service as well as larger ones. Your local Bell Company will gladly have a representative show you the benefits which *your* company might gain. Just call the nearest telephone office. There is no obligation.



# IRON, STEEL AND METAL MARKET

**A** 10 per cent increase in pay for hourly, piece work and tonnage workers in the steel industry, based on a shorter work week, was quickly reflected in prices of various semi-finished steel items, with indications that price advances would follow for other products.

Effective April 10, United States Steel Corporation subsidiaries advanced the price of re-rolling quality, blooms, billets and slabs \$3 a gross ton to \$29. Sheet bars were advanced \$4 a ton to \$30 and skelp, groove rolled, universal and sheared was advanced \$2 a ton.

Since labor costs for steel products will be increased sharply under the new pay schedule—estimated at about \$1.30 per ton on the basis of an average operating rate conservatively estimated at 40 per cent for 1934—it is argued that advancing quotations are justified. In 1933 the industry averaged 34 per cent of capacity. As the operating rate goes higher the labor costs per ton of steel produced will be reduced.

## Production Rate

As this month opens indications are that the steel pace will gradually move upward for the next few weeks. Producers take encouragement from the fact that during the last six weeks the operating rate has fluctuated not more than 5 points, ranging between 45 and 50 per cent of capacity. Although the steel operating rate last year climbed to 60 per cent during July, the rate was not long sustained. Therefore steadiness of production lately is taken to indicate the prevalence of a more healthful condition generally.

Even though for a time buying should lag, the substantial backlog is sufficient to insure a maintenance of the present gait for some weeks at least. As a direct result of the general wage advance consumer commitments for the second quarter increased, many specifying practically all of the material due them on first quarter contracts.

## Heavier Products in Better Demand

There are encouraging signs of greater business in the heavier iron and steel products. In fact, a number of good sized orders were placed last month, and various outstanding orders are in sight. Since the price of steel rails was cut

last fall the carriers, which expected to buy something like 840,000 tons, have actually placed orders to date totaling 500,000 tons. Also substantial orders have been placed or will shortly be placed for rolling stock, calling for a large tonnage in plates.

## Construction Gains

With the opening of favorable weather conditions, following one of the severest winters of record, resulting in a virtual cessation of construction activities in many sections, work will be resumed on large projects carried over for completion from last year and on building, engineering and construction jobs let to contract this year, thus stimulating deliveries of structural steel, reinforcing steel, bars, etc.

The various Navy yards and private shipbuilding yards that have contracts for naval and coast guard vessels are advancing construction on the ships to a stage where substantial tonnages of steel products will be needed shortly.

Construction is proceeding on the Norris and Wheeler dams, and on the \$4,000,000 fertilizer plant in the TVA program in the South. Work is under way or projected on several costly locks along inland waterway routes in the section. Boulder Dam work is advancing at a rapid pace.

With the pushing of the \$400,000,000 emergency road-building program demand for reinforcing steel for pavements and bridges as well as for structural steel for river crossings is to be appreciable in the first half of the year. The flood control program along the Mississippi—three years ahead of schedule—is creating a demand for steel items in wide variety.

The lag in public building, quite noticeable during March, has more than been made up in the South, at least, by a revival in industrial plant expansion and erection of new units. Modernization is the watchword, not only calling for modern extensions and entirely new structures, but calling for the installation of productive machinery of latest types.

Wage increases in the automobile and steel industries and businesses generally have broadened the market for motor cars. And while steel makers don't look for any substantial spurt in buying on

the part of car makers, if the demand holds at near present levels it will substantially benefit the steel industry.

## Scrap Market

A decline of the price for scrap noted in the closing week of March was checked promptly when the announcement was made the automobile strike had been averted. Foreign buying continues heavy, necessitating continued high operating rates of ship-wrecking, automobile salvaging plants and like scrap plants along the seaboard.

While buying from the agricultural areas has not developed as anticipated, the latent demand for galvanizing products, such as roofing and fencing, is substantial. Manufacturers feel that with the recent improvement in prices of crops and in the rural real estate situation, that once the crop outlook can be ascertained that this pent-up demand will be reflected in heavy buying.

## Building Steel

Sales of building steel are running considerably ahead of those for 1933. Reinforcing steel purchases, too, are higher this year than in the like period last year. The tonnage ahead for fabrication too is heavier than at the same time a year ago.

Heavy purchases of pig iron—with no particular large order predominating, but resulting from broad scale purchasing of comparatively small quantities—in the latter part of March may presage the opening of a buying movement, the trade having undergone three months of dullness. Meanwhile, stocks of iron have dwindled.

With the award in recent weeks of numerous contracts for sewer and water projects long in the "planned" stage under the PWA program, and with a substantial number of projects of this character approved recently making possible the preparation of final plans and asking for bids shortly, there is in sight a goodly volume of pipe buying, as well as fittings, accessories, etc.

Myron C. Taylor, chairman of the Board of the Steel Corporation, "sees ahead immediate signs of revival" and reports 200,000 on the corporation's payroll working an average of 29 hours a week and receiving a base rate of pay 25 per cent above the level of last July.



SHEET MILL PRODUCTS

# SAVE



WIRE MILL PRODUCTS

## TIME-EXPENSE-TROUBLE



BAR MILL PRODUCTS

*Concentrate Your Purchases of Steel Products with TENNESSEE COAL, IRON & RAILROAD COMPANY —South's Largest Steel Producer*



RAIL MILL PRODUCTS



The TENNESSEE COAL, IRON & RAILROAD COMPANY serves the Southern consumer with the widest range of steel products made by any steel producing company in the entire South. It is an undeniable advantage for Southern consumers of steel products, to concentrate their purchases with a single company, which is *large* enough to meet all their requirements, *near* enough to make prompt deliveries, and *known* wherever steel is used for uniform maintenance of quality standards. The Tennessee Company invites your business on the strength of its ability to offer you steel products of distinguished quality, diversity of output, prompt deliveries and outstanding service.



HOOP MILL PRODUCTS



PLATE & STRUCTURAL MILL PRODUCTS

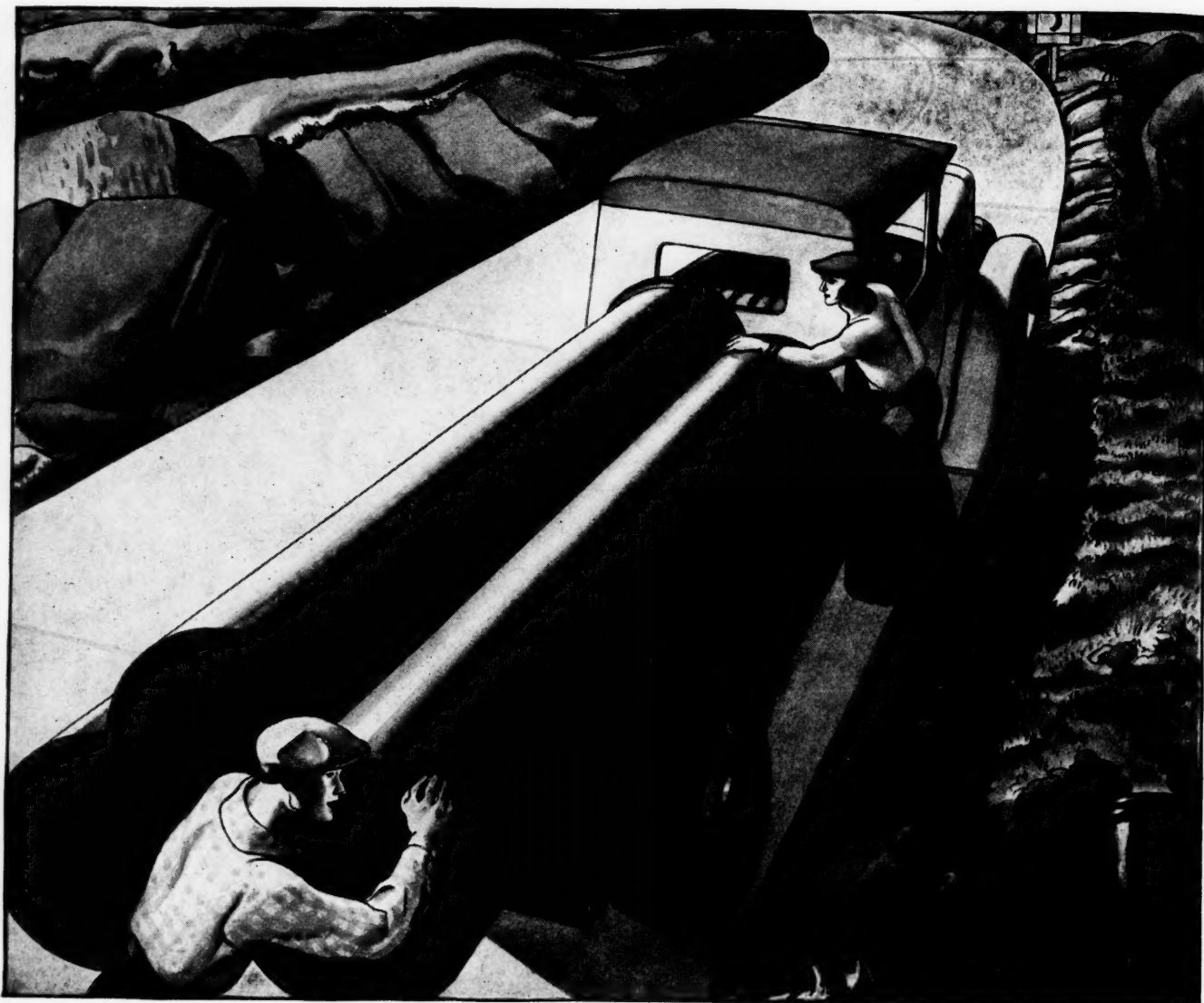
# TENNESSEE

## COAL, IRON & RAILROAD CO.

*Subsidiary of United States Steel Corporation*

General Offices: Brown Marx Bldg., Birmingham, Ala.  
District Offices in Principal Cities

# Doubled impact-strength of means doubled protection



*The WRONG way to unload pipe from a truck*

Most engineers suspect what all pipe foundries know—that many a pipe failure got its start through damage to the pipe somewhere along the line from the foundry to under the ground. We cannot control the handling hazards in transit, unloading and distribution but *we have reduced* their potentiality of damage to our pipe.

Two years ago our research and technical staffs undertook to develop a super-pipe with impact-resistance increased to a degree which would mean maximum protection from plant to underground. After many experiments the Super-de Lavaud process was discovered and perfected, resulting in a cast iron pipe which is shatter-proofed to the extent that

## **IMPACT-RESISTANCE IS INCREASED 100%**

Super-de Lavaud Cast Iron Pipe is centrifugally cast by a patented improved process. This process is the combined result of a basic discovery amounting to a revolutionary

MANUFACTURERS RECORD FOR

# SUPER-DE LAVAUD PIPE against handling hazards



*The RIGHT way to unload pipe from a truck*

metallurgical change plus improved annealing. It has been standard practise in our Centrifugal Pipe Units for more than a year.

The greatly increased *impact-resistance* and the *non-shattering characteristic* of Super-de Lavaud Pipe are due to a fundamental change in metal structure resulting in a tougher pipe. These advantages have been secured while maintaining high tensile and bursting strength; also the resistance to corrosion for which cast iron pipe is celebrated. Obviously, Super-de Lavaud Pipe exceeds in all respects the requirements of the Federal Specifications Board for this product.

*Send for descriptive booklet with full details.*

**UNITED STATES PIPE AND FOUNDRY COMPANY**

GENERAL OFFICES . . . . BURLINGTON, N. J.

FOUNDRIES AND SALES OFFICES THROUGHOUT THE UNITED STATES

APRIL NINETEEN THIRTY-FOUR



# GOOD ROADS AND MOTOR TRANSPORT

## NEW BRIDGE METHOD

## STANDS SEVERE TEST

**W**HILE city streets in general suffered badly as a result of severe weather conditions, the rejuvenated 48-year Charles street bridge over Jones Falls, Baltimore, with its Johns-Manville mineral-surfaced asphalt bridge plank laid upon a Belmont interlocking steel channel deck shows no ill effects, H. F. Lucke, Jr., city bridge engineer, announces.

The success of the new method and materials used is emphasized by the damage done by the extreme temperature change to streets and highways throughout Maryland.

Originally constructed in 1886, an inspection early last year disclosed that the steel stringers and steel buckle plates had deteriorated to such an extent that immediate steps, in the interest of public safety, had to be taken. An analysis of the trusses indicated that they were being continually overstressed due to the excessive deadweight of 185 pounds per square foot, coupled with the heavy modern traffic as compared with the traffic for which the bridge was initially designed.

To have renewed the entire bridge would not only have been costly but it would have necessitated detouring all traffic on the important north-south thoroughfare. Therefore, it was decided to remove the entire deck, including the deteriorated steel work, to install new

**Old Baltimore Bridge Rebuilt Last Year With Lighter Materials Shows No Ill Effects After One Of City's Hardest Winters**

stringers, and add a light-weight bridge floor, consisting of steel channels electrically welded together and surfaced with asphalt bridge planks, the entire weight of the new deck being only 55 pounds per square foot, thus effecting a reduction of approximately 500 tons for the entire bridge area.

The mineral-surfaced asphalt bridge planks are a product of the Johns-Manville Company, New York, and they were laid on an interlocking steel channel deck, made by Belmont Iron Works, Philadelphia, Pa.

The total cost of the work, exclusive of repaving the south approach and the painting of the trusses was \$17,928. The general contract handled by the Pecora-Gashill Engineering & Construction Co., of Baltimore, was completed in 46 calendar days.

After the steel deck was erected and swept clean with brooms, the trough surfaces of the channels were blown thoroughly clean with compressed air, following which a uniform film of J-M asphalt plank cement was applied by an asphalt gun. Preformed asphalt filler planks were then placed in the channels and rolled to form a plane surface.

Interlocking Steel Channel Construction and Asphalt Plank Surfacing



## Virginia Law Limits Weight on Roads

Proceeding under the terms of the Harman Act, recently passed by the Virginia General Assembly, the State Department of Highways is expected to make more rigid use of its power to classify highways in the State with regard to vehicle and load weight restrictions. While the department has heretofore used an older law arbitrarily fixing the weight capacity of bridges, it will probably apply the provisions of the recent act to more of the highways of lighter construction.

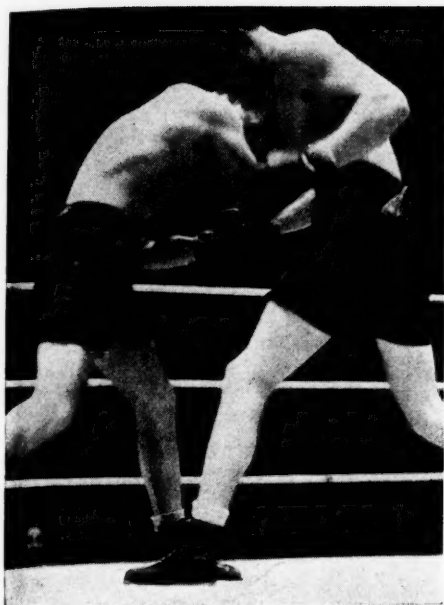
Under the old law, power was conferred upon the Department to restrict the weight of traffic on highways, but was seldom used, it is said, because of the inconvenience that would be caused to those living along the road. The Harman Act liberalizes the old law by providing that when a capacity load is fixed for a given highway, persons living along the road may exceed the capacity with their vehicles provided they take the shortest route to a road constructed for heavier traffic. The same provision applies to vehicles hauling cargoes to persons living along constricted roads.

The Harman Act was prepared at the instance of the State Highway Department, which is seeking to protect highways of light construction, but no definite arrangements have been made as yet as to where the restrictions will be used, according to Henry G. Shirley, State Highway Commissioner.

## Longitudinal Float for Finishing

The use of a longitudinal float operated lengthwise of the road is an unusual and interesting feature of construction of a concrete highway in Pawnee County, Oklahoma.

The Oklahoma road is a Federal Aid project under the supervision of the Bureau of Public Roads, and is identified as Oklahoma NRH & M 85-A. Specifications for the longitudinal float are as follows: "The contractor shall furnish and maintain in working condition a longitudinal float not less than twelve (12) inches in width and ten (10) feet long, with edges rounded to easy curves. It shall be equipped with plow handles and shall be operated from duplicate bridges so arranged that the floating may be continued past the forms, forcing off the surface of the concrete any accumulations of water and laitance."



ACME

# THE CROWD *FLOCKS* TO THE CHAMPION!

*Sales of Austin Motor Graders Increased 22% in 1933.  
The Industry's Total for Similar Machines Declined 13%.*



Two men in the ring—Two machines on the road—In each case superiority is determined by the extent to which one out-points the other. The Austin 77 scores additional points when the familiar types of maintainers have reached their limits. For the 77 is far more than a maintainer as is clearly indicated by the variety of work it will do. Be the judge yourself and weigh these points—

1. WIDE FRONT AXLE WITH LEANING WHEELS equalizes load—no slip. Assures efficient ditching.
2. POWERFUL SIX-CYLINDER MOTOR—optional Diesel motor. Makes possible scarifying 6" compacted macadam.
3. SIX-SPEED TRANSMISSION for most profitable working and traveling speed ranging from heavy ditching to oil mix and swift snow removal.
4. DUAL DRIVE supplies maximum traction—greater draw bar pull per engine horse power. Grips wet clay and gumbo in grading.
5. HYDRAULIC CONTROLS—for quick and easy operation. Also FLOATING DRIVE—CHATTER PROOF LOCK—SIXTY-INCH DIAMETER CIRCLE—BALL AND SOCKET JOINTS THROUGHOUT—GRADE-OMETER in the cab to indicate angle of the blade.



**The Austin-Western Road Machinery Co.**

400 N. Michigan Ave., Chicago, Illinois

## Austin-Western

ROAD ROLLERS, CRUSHING & SCREENING PLANTS, SCARIFIERS,  
SWEEPERS & SPRINKLERS, ROAD GRADERS, ELEVATING GRADERS



MOTOR GRADER,  
DRAGS, SHO

**The Austin-Western Road Machinery Co.**  
400 N. Michigan Ave., A-3, Chicago, Ill.  
Send complete information about the Ten Points of Superiority of the Austin Model 77 Motor Grader.

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LOCAL DISTRIBUTORS  
WAGONS, SNOW PLOWS.

# EQUIPMENT

## NEW AND IMPROVED

### "Caterpillar" Twenty-Two Tractor

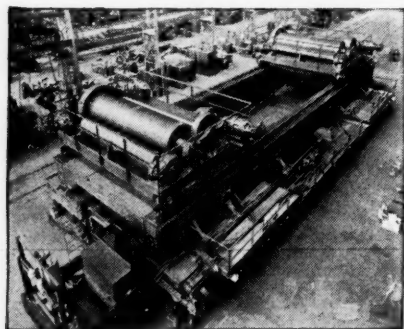
Low first cost, operation on inexpensive fuels and power savings of track-type traction are declared to be outstanding features of the new "Caterpillar" Twenty-Two Tractor, announced by Caterpillar Tractor Company, Peoria, Ill. The new model is powered by a four-cylinder, four-cycle, valve-in-head engine developed to convert a wide range of low volatility fuels into efficient, dependable tractor performance. It is available in either standard or wide gauge models, the standard machine having a shipping weight of 6,150 pounds.

### Harnischfeger Cranes At Boulder Dam

Involving the construction of four 300-ton cranes and one 50-ton crane at a cost of approximately \$250,000, contract has been awarded to the Harnischfeger Corporation, Milwaukee, Wis., by the United States Reclamation Engineer's Office at Denver, Colorado, for five electric traveling cranes for work at Boulder Dam. The four 300-ton units are equipped with two 30-ton auxiliary hoists. They are of the double trolley powerhouse type, having a span of 64 feet and a lift of 70 feet. Eight electric motors employed in the bridge drive, hoist and hoist propel mechanism are of the Harnischfeger special crane type, having a combined output of 380 H. P. for each crane. Truck bodies and trolley frames will be of welded construction.

Two of the 300-ton units will be installed in each wing of the power house for handling huge generator rotors having a diameter of 26 feet and weighing about 600 tons each. These rotors are being supplied by the General Electric, Westinghouse and Allis-Chalmers com-

Four 300-Ton Cranes of This Type Will Be Used at Boulder Dam



panies, and are said to be the largest ever built.

The 50-ton crane, also to be installed in the Boulder Dam powerhouse, will be used for miscellaneous work in connection with the fabrication of structures too large to permit shipment complete.

### Link-Belt Adds Domestic Stoker

Rounding out its stoker line to a total of 10 sizes to cover the entire range of boiler capacities from the home size up to 250 B. H. P., the Link-Belt Company, Chicago, announces the addition of a domestic unit to its line of underfed screw type stokers. New features are incorporated in the design of the unit, especially in the mounting, transmission and coal burning end. The hopper is extra large, having a coal capacity of 500 pounds, and is 26 inches above floor level, making it easy to fill. Transmission, fully enclosed, is provided with positive lubrication, and arranged for five speeds. Gears may be shifted without clashing while in operation. Other outstanding features are: accessible cleanout door, smoke arrester, conveniently located retort cleanout, fan silencer, and easily replaceable shear pin.

### Metal Protective Coating

L. Sonneborn Sons, Inc., New York City, announce a new product for protecting metal surfaces, which has undergone severe tests in the past two years. Known as S. R. P. Metal Protective Coatings, it is declared to be effective against sulphuric acid, ammonium hydroxide, strong alkalis, hydrogen sulphide and salt water.

### Spur Geared Chain Hoist

The Wright Manufacturing Division of American Chain Company, Inc., York, Pa., announces an Improved Model Hoist to increase durability, efficiency and service. An outstanding feature of the new hoist is a zinc coating on all exposed parts, making it practical for outdoor use and for service in moist and corrosive atmospheres. Precision ball bearings have been added with integral grease seals supporting all moving parts and increasing efficiency. Wear is reduced to a minimum on vital moving parts by a system of continuous lubrication of the sealed precision bearings. Additional minor improvements include hardened pawl tip, improved load chain guard and ball spring covers on oil tubes.

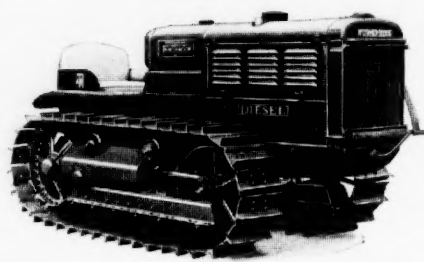
### Heavy Duty Four Cylinder Engines

Announcing the ZX series of engines and power units, Hercules Motors Corporation, of Canton, Ohio, adds models ZXA and ZXB to its line of heavy duty four and six cylinder engines, thus completing a range of sizes from 4 to 200 horsepower. The two models of four cylinders are identical in general design and the majority of the parts are interchangeable, the only difference being in bore sizes and parts affected thereby. In the ZX series, the crankcase is cast integral with the block, the crankshaft being 2 inches in diameter at the three main bearings. Lubrication is of the full force feed type to the main bearings and connecting rod bearings; pistons normally are of cast iron and carry three rings above the pin; the camshaft is on the right-hand side, supported by four bearings 1 1/4 inches in diameter, and engines are of the L-head cylinder type. Available in both the open and enclosed types, the engines find application in commercial vehicles, agricultural equipment, general industrial and road building machinery, oil field apparatus and for marine purposes.

### Diesel-40 TracTracTor

Equipped with the same type chassis as the McCormick-Deering six-cylinder T-40 TracTracTor, the new McCormick-Deering Model TD-40 or Diesel-40 TracTracTor made by International Harvester Company of America, Chicago, is operated by a four-cylinder, four-stroke-cycle, valve-in-head Diesel engine. The important advantage of operating this TracTracTor with Diesel-engine power is declared to be fuel economy. A distinctive starting system enables the operator to crank the new model easily, while great care and skill have been employed to make the fuel supplying system to close precision limits. Fuel to each cylinder is filtered five times and passes through two sediment traps. The maximum engine horsepower is 52, and the maximum drawbar horsepower, 44.

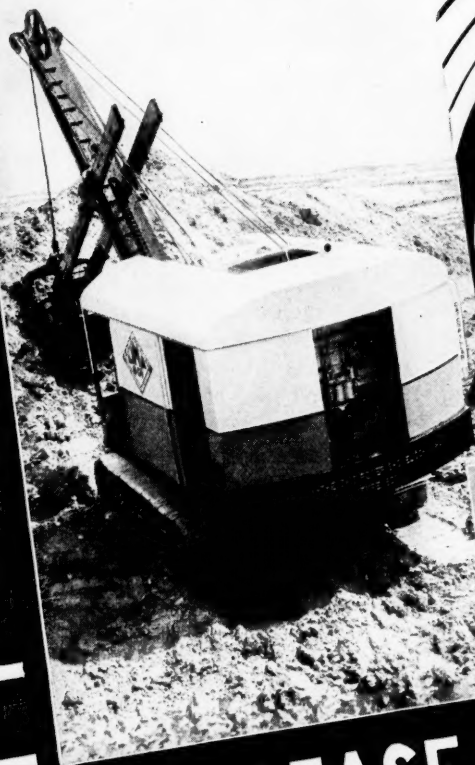
Model TD-40



MANUFACTURERS RECORD FOR

# LIMA DIESELS

SHOVELS  
DRAGLINES  
BACKDIGGERS  
CRANES



**SAVE  
60%-80%  
in  
FUEL COSTS**



**INCREASE  
PRODUCTION**

**Fuel Costs Reduced, Production Increased with LIMA "Caterpillar" Diesel Shovels, Draglines and Cranes**

THE application of "Caterpillar" Diesel power to LIMA shovels, draglines and cranes brings to the user of excavating machinery a new conception of fuel economy. LIMA "Caterpillar" Diesel machines operate on inexpensive fuel, consequently fuel costs are 60% to 80% lower as compared with gasoline powered machines. This desirable feature plus the profitable advantages of roller bearings at every vital bearing point, helical gears throughout (two exclusive LIMA features), and the unusual lugging ability of the Diesel engine, result in a type of construction that will produce much greater yardage at less cost.

**THE OHIO POWER SHOVEL COMPANY**  
DIVISION OF LIMA LOCOMOTIVE WORKS, INCORPORATED  
HOME OFFICE LIMA, OHIO FACTORY

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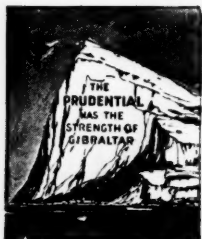
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# It's a part of modern business

## GROUP INSURANCE

has proved its value  
to large and small  
concerns in every  
line of endeavor.

EMPLOYERS ARE INVITED  
TO ASK QUESTIONS OR  
SEND FOR BOOKLET



THE PRUDENTIAL  
INSURANCE COMPANY OF AMERICA

EDWARD D. DUFFIELD, President  
HOME OFFICE, NEWARK, N. J.

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## FINANCIAL NEWS

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### Regulation of Stock Exchanges

The bill to regulate stock exchanges is meeting with strong opposition in financial circles. Petitions are being circulated by investment houses and banks, asking Congress to give consideration to the unemployment that will result if the bill becomes law, and the effect, generally, upon the business and well being of the country. The price of stock exchange seats has suffered a marked decline. There is no doubt of the fact that revelation of wrong-doing in high places in the financial world has led to the belief that regulation, more or less drastic, is necessary.

President Whitney of the Stock Exchange, in his testimony, admits the desirability of regulation, but denies that the market debacle in October '29 brought on the depression. In his opinion it was the advance news that the depression was on the way.

### Individual Initiative

Daniel Roper, Secretary of Commerce, in a recent statement viewed the revival of the durable goods industry as imminent. Questioned about the ultimate disposal of government relief agencies, he gave his opinion that "individual initiative is the greatest asset in American life." He referred to the recovery program as a "constitutional revolution." He apparently recognizes the danger of depriving the nation of the energy of individuals, which has been always its source of progress.

### The Budget

In over-riding the President's veto and promising to pay more than \$230,000,000 to certain classes of disabled veterans, as well as government employees who had their pay cut, the budget was unbalanced with a vengeance. Hundreds of millions and billions are being blindly voted away with an abandon, as is being said elsewhere in this issue, which shows a total disregard for the safety of Government credit.

### Refinancing Ten Billions

That is about the sum which the Treasury Department will have to arrange to finance this year. It will be interesting to observe the success with which it meets if the announced plan of taxing new government securities is carried out. What will be the rate of interest if government bonds are taxed? What inducements must be offered in view of Congressional action, which has thrown budget balancing plans askew?

### Deposit Insurance

The Federal Deposit Insurance Corporation reports that during the first two months of its operation, the number of banks holding membership in the temporary insurance fund, which insures deposits up to \$2500, grew to a total of 13,632 banks.

The total of insured deposits now amounts to \$15,512,744,137.

The temporary plan for insurance of bank deposits has been extended for another year at the President's suggestion in order to give more time for consideration of the law covering all deposits.

### Bonds for Farm Mortgages

The Federal Farm Mortgage Corporation was organized to provide for the continuance of farm debt refinancing initiated  
(Continued on page 38)

## Helping Customers Pay their Bills

**D**UE amounts owed Associated operating companies by customers for electricity and gas total \$2,141,829. These arrears do not include amounts written off as bad debts. ¶ Instead of cutting off the service of customers who could not pay promptly because of reduced incomes, Associated operating companies helped many customers to continue their service by making it easier for them to pay. One way was to allow

customers to pay for service weekly, and at the same time pay a small amount toward their old bills. ¶ Slowness of collections is one of the several unfavorable conditions which induced the Associated Gas and Electric Company to propose its Plan of Rearrangement of Debt Capitalization. The Plan aims to keep the Associated System intact, and thus help to protect the investments of 350,000 Associated security holders.

**ASSOCIATED GAS & ELECTRIC SYSTEM**

61 BROADWAY—NEW YORK



### Electric Bond and Share Company

**Two Rector Street  
New York**

### As Business Improves

The importance of adequate banking connections becomes more apparent as business improves.

Are you meeting satisfactorily the questions that arise with changed conditions?

Industry looking ahead with renewed confidence is the hope of the country.

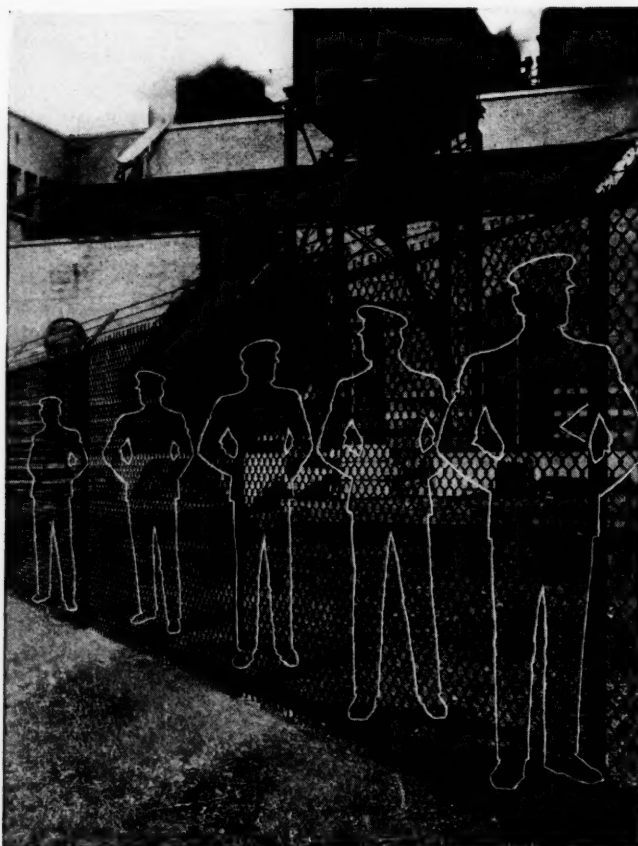
We are glad always to have our customers confer with us about their problems.

### Baltimore Commercial Bank

Gwynn Crowther, President

**BALTIMORE, MARYLAND**

*Member Federal Reserve System*



## WATCHMEN THAT NEVER SLEEP

Cyclone Fence not only discourages the trespasser be he trouble maker, loafer, or thief, but it makes every foot of your yard space safe for outside storage, twenty-four hours a day.

It reduces fire hazards and makes employe control much easier. In addition, it improves the appearance of your grounds which develops the pride of employes in helping to keep up the appearance.

It will pay you to secure all of the facts about Cyclone Property Protection fence and gates. This strong, rust-resisting, long-life barrier can be efficiently and economically erected by our factory trained crews. It will assure maximum protection at all times. Write for complete information. Address Dept. M.

### CYCLONE FENCE COMPANY

General Offices: Waukegan, Ill.  
Branches in Principal Cities

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

Pacific Coast Division:  
Standard Fence Company, Oakland, Calif.

*Cyclone—not a "type" of fence—but fence made exclusively by Cyclone Fence Company and identified by this trademark.*

# Cyclone Fence

REG. U.S. PAT. OFF.



### Bonds for Farm Mortgages

(Continued from page 36)

by the Farm Credit Administration and may issue \$2,000,000,000 of bonds for that purpose.

The interest and principal of these bonds are guaranteed by the Government, and besides this guarantee will have back of it the consolidated bonds of the Federal Land Banks exchanged for the Corporation's bonds, and the mortgages accepted by the Land Bank Commissioner, and also the capital of the Corporation. These bonds are now being exchanged for farm mortgages.

### Credit Banks for Industry

The Credit Banks for Industry, are intended as a means to supply working capital to small concerns. Senator Glass will introduce a bill giving this lending power directly to the Federal Reserve Banks. This is intended as a substitute for the bill proposed by Governor Black of the Federal Reserve Board and the bill offered by Chairman Jones of the R. F. C.

### Bond Prices Rise

The recent improvement in the bond market includes marked increases in the price for city, county and State securities. Bonds of some Southern States and municipalities have gone up from ten to fifteen points since the first of the year. This is true also of industrial securities in all parts of the South. New issues which were lagging a short time ago are now being sought by buyers willing to pay a premium.

### Interlocking Management

If the Federal Reserve Board decides that the limits of interlocking management of member banks and securities concerns applies also to underwriting syndicates, it will be necessary to file applications when bond syndicates are formed in the same way that the Federal Reserve Board's permission must be obtained before securities dealers can be directors of member banks.

### Home Owners Loan Corporation

Up to March first the Home Owners Loan Corporation has financed over 114,000 loans, amounting to more than \$325,000,000.00, the average loan amounting to \$2833.

### Bond Taxes

The suggestion of the Secretary of the Treasury that future issues of Federal, State and municipal bonds be taxed as other securities are taxed, has met with comparatively little criticism. No breaking of a contract is involved, because it would apply to bonds still to be issued, on which the bond buyer would recognize his tax obligations in advance. While such bonds would no doubt command a higher interest rate, increased tax revenues would probably compensate for the higher figure.

It is also likely that without the tax exempt feature, capital would be more inclined to seek investment in productive private enterprise.

### Conflicting Remedies

Public officials keep talking about the desirability of recovery measures, which are confusing in their number and complexity, and at the same time say they recognize the supreme necessity of regenerating private enterprise. The two are in large part in conflict.

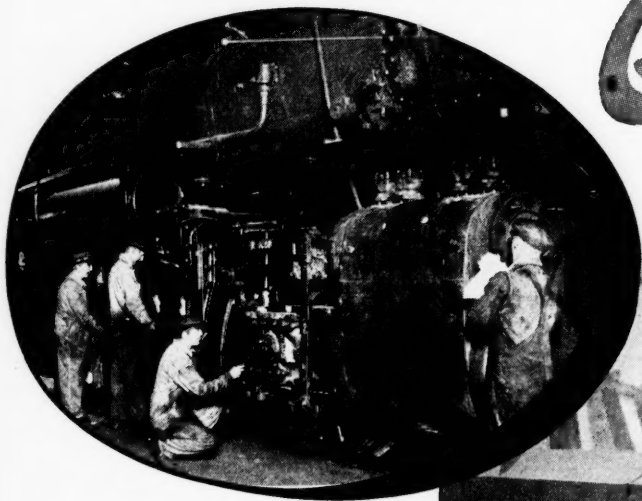
The appeal today on the part of industry is to be let alone and not be regulated any more.

### New Capital 4 Per Cent of Ten-Year Average

New Capital supplied to private enterprise in the United States dropped from a ten-year (1921-30) of \$4,000,000,000 to \$1,551,000,000 in 1931; in 1932 to \$325,000,000, and in 1933 to only \$160,000,000, or 4 per cent of the pre-depression ten-year average.

# RECOVER RIGHT...

## start with a *Barrett* ROOF INSPECTION



*In his search for obvious and hidden defects, the Barrett Inspector will check your roof with the same conscientious thoroughness used in the inspection of the locomotive on a Limited train. His object is to find trouble before it appears as well as after.*



In any modernizing or remodeling project, the condition of the existing roof is a matter of first importance.

Will the old roofs safely protect the increased investments in building and equipment? Are the flashings tight? Are the connections around sign supports, stub columns, stacks, vents, etc. in good condition? Does the roof drain properly?

To these and many other questions, an experienced Barrett Roof Inspector will gladly give unbiased answers based on actual conditions found. If repairs are advisable, if a new roof is necessary, or if the roof needs *no* attention, he will tell you ... and you can depend on his judgment.

Barrett Roof Inspection is a regular feature of Barrett Roof Service, and it is typical of Barrett's undisputed leadership in roofing—a reputation won and held since 1854. It is known by leading

architects and engineers as the most thorough and conscientious roof inspection service available.

The services of a Barrett Inspector entail no obligation, and are offered free to owners of flat-roofed buildings located east of the Rockies. We will gladly arrange an inspection without obligation.

THE BARRETT COMPANY, 40 Rector Street, New York, N. Y.

*In Canada:*

The Barrett Company, Ltd., 5551 St. Hubert St., Montreal, P. Q.

### A *Barrett* ROOF FOR YOUR HOME



A periodical inspection of the roof of your home—which your local Barrett Roofer or Distributor will gladly make—will promote economy. Small leaks may cause serious damage . . . rotted roof boards, stained ceilings, loosened plaster. Barrett Shingles, especially suited to reroofing over old materials, are long-lived, fire-safe, beautiful and low in cost. They rank in dependability with all other Barrett protection products, such as Barrett Specification Roofs, Barrett-Holt Roof Connections, Barrett Waterproofing, Sheathing and Building Papers, Barrett Protective Paints, etc.



"**QUALITY**" and "**SERVICE**" are easy to claim — much harder to deliver . . . But, **GULFSTEEL** can guarantee the uniform quality of its products, because it has complete control of every manufacturing process from the mining of the ore to the last finishing touch . . . **GULFSTEEL** can give better, prompter, more individual service, because all of its operations are at one big plant. Send us your next inquiry, and see for yourself.

**INGOTS · BILLETS · SLABS · BLOOMS  
BARS · CHANNELS · ANGLES  
PLATES · STEEL SHEETS · BARB WIRE  
WIRE FENCE · FENCE POSTS  
STAPLES · BALE TIES · RODS · WIRE  
NAILS · SPIKES · WELDING WIRE**



**GULF STATES STEEL COMPANY**  
BIRMINGHAM, ALABAMA



## OVER THE EDITOR'S DESK

A SOUTH CAROLINA MANUFACTURER states that 40 per cent of the working time of his plant is required to meet Federal, State, county and municipal taxes.

REVENUE FROM PROCESSING TAXES of \$216,778,000 up to March, which is 53 per cent of the amount it was estimated would be yielded during the fiscal year ending June 30th, is reported by the A.A.A.

REPORTS FROM CITIES in various parts of the South and Southwest indicate a shortage of homes. Houston, Texas, reports that there are but 6 per cent of homes vacant, counting residence and apartment units of all types, and families now living with other families are more than enough to fill all vacancies.

Durham, N. C., reports that the demand for homes exceeds the supply. Families are ready and anxious to move into decent homes as fast as they can be built.

IN A LETTER TO STOCKHOLDERS, John J. O'Brien, president of H. M. Byllesby & Co., calls attention to the unusual burden placed upon industry through "additional Federal, State and local taxes," as well as "threats of competition from the Government and municipalities and continued demands for reduced rates."

There is no doubt of the fact that utilities have a distinct side to the story which entitles them to a hearing. The demand for lower rates, although rates have been steadily declining, comes at a time when costs have been rising through compliance with the N.R.A. and other causes. These costs, by reason of regulation by public commissions, very often can not be considered in rate adjustments. Plants owned by Government and municipalities, which are tax-free, offer hurtful competition.

Clearly these are matters which deserve consideration of every investor and every thoughtful citizen.

A DISPATCH from Jacksonville, refers to the diversified industrial development that is taking the lead in bringing Florida out of the depression. One example is the recovery of oil from the immense schools of Menhaden fish, some of these schools being 50 miles in length, which abound in Florida waters. This oil has proven to be a valuable base for a variety of products.

FIGURES FROM THE CENSUS BUREAU show reports on more than 6,000,000 farms. Only 4 per cent are worth as much as \$5,000; 65 per cent are values at less than \$1,000, and the remainder somewhere between the two figures mentioned.

AUTOMOBILE REGISTRATIONS in 1933 were very slightly above the 1927 level, somewhat less than three per cent increase, but there were 17 per cent more deaths from accidents. The list grows and speed increases. Punishment for wrongdoers should be made more severe. That is one sure way of checking a growing evil.

THE PAPERS have been commenting on the difficulties experienced by those administering relief, in securing information about the financial circumstances of applicants. Great Britain's "means test" has given a lot of trouble. It seems that there is resentment against investigators trying to determine whether an applicant is worthy of relief or not.

Perhaps this is not as ridiculous as the strikes which C.W.A. workers called in certain localities. Think of it!

**BUSINESS PAID** out in wages, dividends and other disbursements \$24,000,000,000 more than it produced in the three depression years 1930-1932, according to the National Industrial Conference Board.

A BILL has been introduced in Congress authorizing the payment of not only Federal but local taxes on government property utilized for purely commercial business purposes, in competition with private interests. Advocates claim the direct benefit to communities which would come about through taxing government units in the localities where they are placed, would benefit local populations directly and put such enterprises on a fairer competitive basis with private interests.

ARTHUR D. LITTLE announces that synthetic rubber may supplant natural rubber for certain important uses. For special applications it has advantages over natural rubber.

THE BUREAU OF PLANT INDUSTRY of the U. S. Department of Agriculture, recently exhibited golden bantam corn frozen on the cob last summer and cooked on the cob in March. It was said to be noticeably free from "cob flavor" commonly associated with corn preserved on the cob, and was regarded by some as even sweeter than fresh corn.

THERE IS CITED by the Atlanta Constitution an altogether unusual opportunity presented in Georgia to former farm families which now may be among the unemployed in cities. It states that a survey shows a large number of owners of farms with good houses and other buildings are willing to turn their lands over to such families who will put them back into cultivation. In some cases they will furnish livestock and equipment, as well as financial backing, the purpose being to keep the property from going to ruin.

EXPERIMENTS BEING MADE in Germany, Poland and other European countries in the use of steel reinforcement in new macadam roads and for repairs, is claiming attention in this country. Iron grilles, weighing about 50 pounds per square yard, are anchored to the gravel bed and covered with asphalt and fine gravel. According to the width of the road, it is estimated it requires from 500 to 1,000 tons of steel per mile.

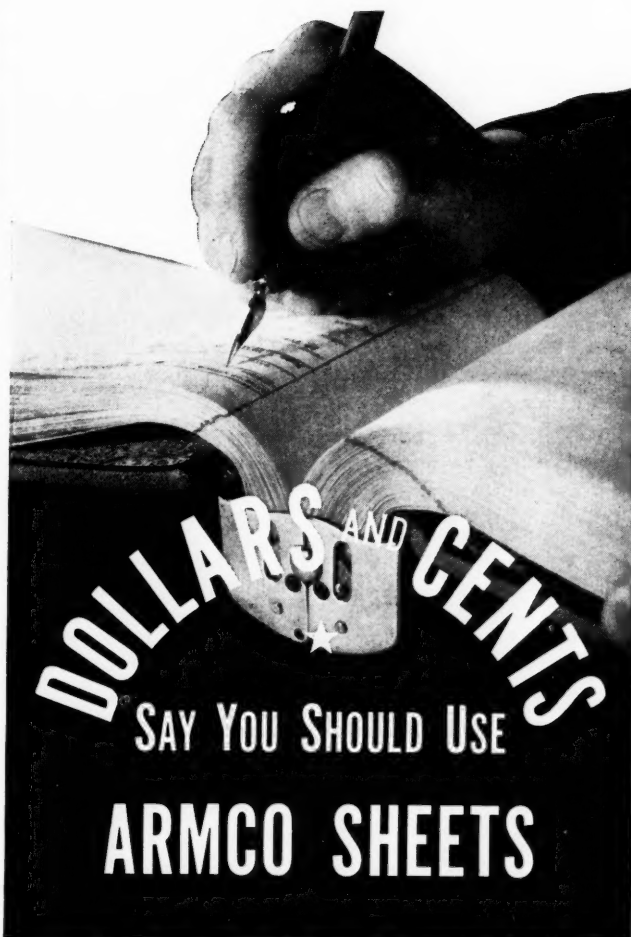
THE PURCHASING POWER OF FARM PRODUCTS in terms of other commodities has increased about 26 per cent in the past year. Although the farm price index of the Bureau of Agricultural Economics remained practically unchanged during March, based on the 1909-14 period of 100, the March 15 index was 76 compared with 76 on February 15 and with 50 on March 15, 1933. Whereas the index of prices received by farmers have risen 52 per cent in the past year, the price paid by farmers increased 20 per cent. This has raised the purchasing power of farm products in terms of other commodities from 50 to 63 in the Bureau's index, or 26 per cent.

Compared with a year ago, cotton and cottonseed were up 46 points, grains 42 points, dairy products 20, chickens and eggs 18, foodstuffs 9 and fruits and vegetables 48 points.

Farm Prices of Principal Commodities  
(Average Price, Cents)

Commodity	1934		1933
	March 15	February 15	March 15
Cotton, pound ....	11.7	11.7	6.1
Wheat, bushel .....	70.9	72.0	34.5
Corn, bushel .....	47.1	45.6	20.6
Potatoes, bushel ...	92.0	87.7	39.0
Hogs, pound .....	3.8	3.8	3.2
Eggs, dozen .....	14.4	15.8	10.1

The rise in farm prices has been most gratifying in many quarters although partly induced by artificial means. The contention has been that unless the farmers of the country can receive adequate prices for their crops to enable them to earn a profit we can have no lasting prosperity.



**DOLLARS AND CENTS**  
**SAY YOU SHOULD USE**  
**ARMCO SHEETS**

YOU may be one of those manufacturers who is worrying and fretting with unsatisfactory hot- and cold-rolled steel sheets, not realizing that ARMCO SHEETS would light the way out. Put a stop to fabricating wastes, unsatisfactory work—losses! Invite a trained ARMCO MAN in to help you with problems of forming, drawing, welding and finishing. He knows iron and steel. You know what you want to do in fabrication and cost reduction. Back of this ARMCO MAN stands the long research experience and metallurgical skill of the pioneer producer of special analysis iron and steel sheets. It can mean dollars and cents to you. Learn how by briefly explaining your needs for hot- and cold-rolled sheets.

**THE AMERICAN ROLLING MILL COMPANY**

Executive Offices:

Middletown, Ohio



**ARMCO** means  
**GOOD IRON AND STEEL**

# ARE YOU AWARE THAT—

**THE SOUTH MADE** about half of the 85,126,000 pounds of aluminum manufactured in the United States in 1933.

**AVERAGE HOURLY WAGE** rates in many industries have advanced 50 per cent under NRA codes. In the peak of activity in 1929 the average hourly earnings were about 60 cents and they are now close to 55 cents.

**MORE THAN ONE FOURTH** of all less-than-carload shipments now being handled by the Pennsylvania Railroad specify collection and delivery.

**MCCOOK, NEBRASKA**, home town of Senator George W. Norris, voted almost two to one against a \$250,000 bond issue to build a municipal power plant.

**SULPHUR PRODUCTION** amounted to 1,406,000 tons in 1933, a gain of 58 per cent over 1932, all but 1,126 tons being produced in the South. Texas reported 77 per cent of the country's output and Louisiana about 23 per cent.

**GOVERNMENT PAYROLLS** in February included 22,000,000 persons—6,250,000 regular employees, 2,750,000 whole beneficiaries and 13,000,000 part beneficiaries.

**ABOUT 11,000,000 PERSONS** are direct owners of at least half of the corporate stock outstanding in the United States. More than half of the population of the country, through insurance policies and savings deposits are indirectly but none the less vitally interested in the value of bonds and stocks.

**ABOUT 90 PER CENT** of highway expenditures goes directly to labor.

**INSURANCE TAXATION** of policyholders by States is now about \$90,000,000 a year. Since 1932 collection of special State insurance taxes aggregated \$893,997,000, a sum which would have been sufficient to care for more than 90 per cent of all death claims paid in 1932.

**ESTABLISHMENT** of a 30-hour week on the railroads would increase the annual operating expenses \$600,000,000, an amount largely exceeding the total net operating income they earned either in 1932 or 1933.

**ONE THIRD** of the 6,500,000 persons 65 years of age and over in the United States are gainfully employed. Most of the remaining two-thirds are potential candidates for the old age pension roll.

**COTTON MILLS** of the world used more cotton from August 1 to February 1, the first half of the current cotton season, than in any corresponding period since 1929-30.

**EARNINGS** of 701 corporations increased 195 per cent in 1933. The net income for 1933 was \$704,884,000 as compared with \$239,115,000 for 1932 when most of them reported deficits.

**ELECTRIC CUSTOMERS** numbered 583,000 in 1902. There are now more than 24,000,000. The average residential rate has been cut from 16.2 cents per kilowatt hour to 5.49 cents between 1902 and 1933. In 1933 the private electric industry paid \$225,000,000 or from 10 to 15 per cent of its total receipts, in local, State and Federal taxes.

(Continued on page 44)

An Example of EC&M

## AUTOMATIC PUMP CONTROL



**From Deep Well to Clear Well to Elevated Tank automatically**

Clear Well is ..... 7 ft. Deep  
 1st Deep Well Pump starts at 6 feet  
 2nd " " " " 5½ feet  
 1st Booster Pump starts at 250 feet  
 2nd " " " " 245 feet  
**Tank-Level controlled within 3½ ft.**

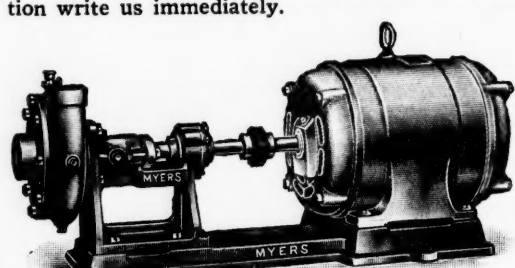
**Let EC&M Solve Your Pumping Problems**

**THE ELECTRIC CONTROLLER & MFG. CO.**  
 2700 East 79th Street, Cleveland, Ohio. M. R. 4-34.  
 Gentlemen:  
 Please send me Bulletin 1100-A describing EC&M Automatic Pump Control for use with.....Volts (a.c. or d.c.) motors.  
 Name.....Company.....  
 Address.....

## OUTSTANDING PERFORMANCE!

Again Myers engineers have triumphed in the development and introduction of Myers Centrifugal Pumps. Precision, balance and smoothness of operation are matters of record. High efficiency and absolute dependability are thoroughly established. Performance has been outstanding. Users everywhere report complete satisfaction. This briefly, is the answer to the success of Myers Centrifugal Pumps and their rapid acceptance by industry and agriculture the country over.

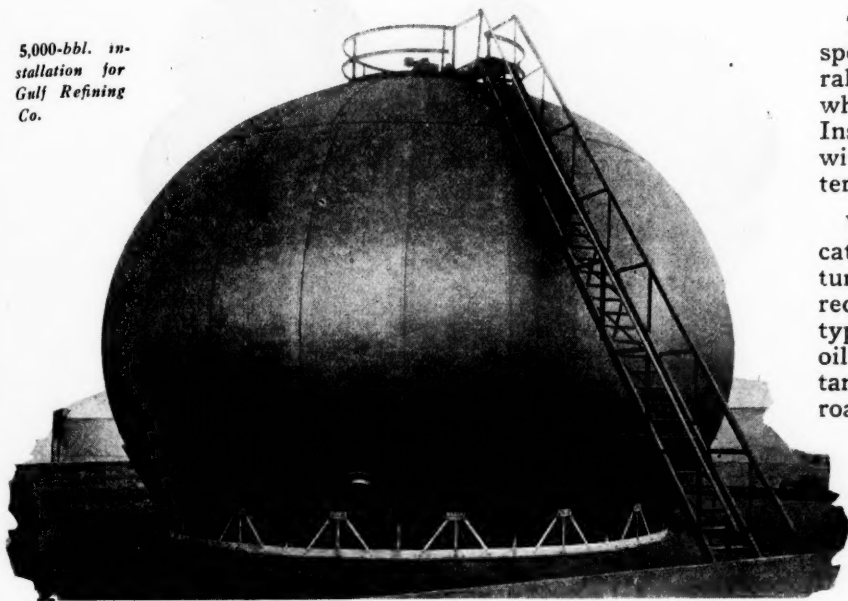
Our new Centrifugal Pump Catalog, No. CT34, is complete with illustrations and descriptions of the different styles and sizes in which Myers Centrifugal Pumps are now built. If you have not received a copy and desire detailed information write us immediately.



**THE F.E. MYERS & BRO. CO.**  
 ASHLAND, OHIO.

## Special types of STEEL STORAGE TANKS to meet your particular needs

5,000-bbl. installation for Gulf Refining Co.



The HORTONSPHEROID is a special type of tank used to store natural gasoline and other volatile liquids which boil at normal temperatures. Installations are usually designed to withstand 10 or 15 lbs. per sq. in. internal pressure.

We are equipped to design, fabricate and erect special types of structures like this to meet your particular requirements. Of course, we build all types of standard storage tanks for oil, water and other liquids, elevated tanks for municipal, industrial, railroad and fire protection service, etc.

*We will appreciate the opportunity of submitting a quotation, without obligation to you, on any tanks or steel plate work you may contemplate installing.*

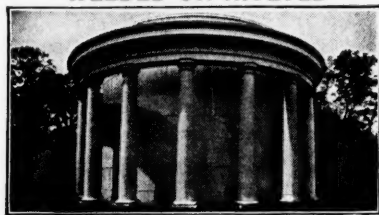
### CHICAGO BRIDGE & IRON WORKS

Birmingham .....	1530 Fiftieth St. North	New York .....	3113 Hudson Terminal Bldg.	Philadelphia .....	1619-1700 Walnut St.
Dallas .....	1208 Burt Bldg.	Cleveland .....	2216 Rockefeller Bldg.	Detroit .....	1510 Lafayette Bldg.
Houston .....	2919 Main Street	Chicago .....	2106 Old Colony Bldg.	Boston .....	1510 Consolidated Gas Bldg.
Tulsa .....	1611 Thompson Bldg.	San Francisco .....	1040 Rialto Bldg.	Havana .....	Edificio Abreu 402

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

B-379

### SOUTHLAND PRODUCTS —WELDED OR RIVETED—



Million gal. Tank at White Sulphur Springs, W. Va.

**CHATTANOOGA BOILER & TANK CO.**  
CHATTANOOGA, TENN.

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

**WELDED  
OR RIVETED  
CONSTRUCTION**

This applies to field as well as shop built equipment.

*Write us for information and quotations.*

### DAVIS CYPRESS TANKS

FACTORY TANKS AND STEEL TOWERS

If you handle liquids, for storage or processing, Davis Cypress Tanks very likely will provide new economies. For water, common chemicals, or for mixing and storing solids and compounds. Industrial plants and railroads have used our tanks for 46 years. Ask for estimates and catalog—both sent promptly on inquiry.



**G. M. DAVIS & SON**  
P. O. Box 5, Palatka, Florida



### ❖ C O L E ❖



### 500,000 Gallon Tank

erected for City of St. Petersburg, Fla. Cole tanks both in design and workmanship offer very distinctive advantages. They embody the most revised requirements of all insurance authorities.

❖ ❖ ❖

**R. D. COLE MANUFACTURING CO.**

Established 1854

NEWNAN, GA.

New York Office,  
5 Beekman St.

## Are You Aware That—

(Continued from page 42)

**PUBLIC AND PRIVATE DEBTS** in this country are estimated at \$250,000,000,000 or within about 11 per cent of the nation's total estimated wealth of \$280,000,000,000.

**FORTY-FIVE THOUSAND** communities in the United States depend exclusively on the motor truck for freight transportation.

**THE SOUTH** produces more than 92 per cent of the cigarettes, 26 per cent of the cigars and 68 per cent of the manufactured tobacco made in the United States. Total output for the country in 1932 was 106,632,000,000 cigarettes, 4,382,000,000 cigars and 347,278,000 pounds of manufactured tobacco.

**TEN PER CENT** of all gainfully employed persons in the United States are engaged directly or indirectly in making or servicing motor vehicles.

**THE BIG BEND DISTRICT** of Texas, claimed to be the largest and richest undeveloped mining section in the world, has the largest quicksilver mines and the largest silver-lead mines in the United States.

**AIR CONDITIONING** apparatus will be installed on more than 2,200 railway passenger cars in 1934 and it is estimated that by the end of the year all principal trains of the railways of the country will be partially or fully air-conditioned.

**THE SOUTH HAS** approximately 1800 textile plants in addition to 400 cottonseed oil mills and more than 1500 cotton gins. It has 62 per cent of the country's cotton spindles and 76 per cent of the country's spindle-hour operation was in the South in 1933.

**MOTOR TRUCKS** handle nearly 49 per cent of the livestock shipped to the 17 largest stockyards in the United States.

**COTTON BAGS USED** for "consumer packages" of potatoes increased twenty-fold since 1928—from 500,000 bags to about 10,000,000. Three sizes, 10, 15 and 20 pounds, are in general use.

**BRIDGE AND GRADE** separation projects approved or under construction under the N. I. R. A. include 2,746 bridges costing \$37,384,000, 194 railroad-highway separations amounting to \$7,814,000, and 12 grade separations between intersecting highways totaled \$793,000.

**TAX CONTRIBUTION** to public schools by the American railroads amount to about \$148,000,000 a year. This is an average of over \$90 per pupil, affecting 1,640,894 students.

**IN THE SOUTH ARE** 9,200 motor vehicle dealers, 23,200 automobile repair shops, 15,600 retail accessory outlets, and over 42,000 gasoline filling stations to service its 5,000,000 passenger automobile, 36,000 buses, 820,000 trucks and 96,000 trailers. There are more than 5,000 fleet owners of five or more vehicles.

**FORTY FOOD PRODUCTS** can be made from soy beans, a crop that is peculiarly adaptable to Southern agriculture.

**NEW RAILROAD TRACK** completed in the United States last year amounted to only 24 miles and 18 miles of this total was in the South.

**FARMER COOPERATIVES** handling petroleum products did a total business of \$35,000,000 in 1933. There are now 600 associations, mostly in the Middle West, many operating bulk storage plants and fleets of trucks distributing gasoline and kerosene, lubricating oil and grease.

### WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Etc.

**ROBERTS FILTER MANUFACTURING COMPANY**  
604 Columbia Avenue Darby, Pennsylvania

### STEEL PLATE CONSTRUCTION TANKS STACKS DREDGE PIPE

Acid Tanks	Digestors	Jacketed Tanks	Settling Tanks
Breechings	Dryers	Molasses Tanks	Standpipes
Condensers	Filters	Oil Storage Tanks	Still
Coolers	Gasoline Tanks	Pressure Tanks	Vacuum Tanks

**LANCASTER IRON WORKS**  
LANCASTER, PA.

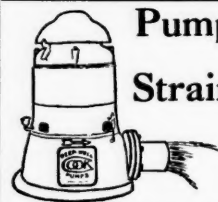
### Water Purification Plants

*Any Type—Any Purpose—Any Capacity*

Dry Chemical Feed Machines  
Swimming Pool Filters

**E. W. BACHARACH & CO.**

Rialto Bldg. Kansas City, Mo.



**Pumps—Deep-Well Plunger and Turbine**

**Strainers—and other well supplies**

**WATER PRESSURE SYSTEMS**

**A. D. COOK, INC.**

Lawrenceburg, Indiana

## CENTRAL-IZE . . . for quality

Laboratory Guidance  
plus  
Mechanical Control  
plus  
Expert Supervision

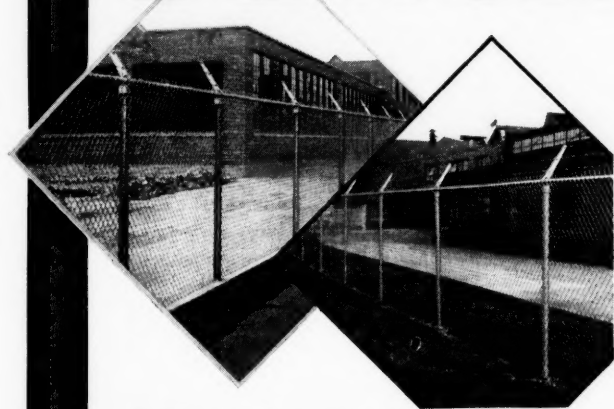
"CENTRAL"  
QUALITY  
STEEL

Billets ~ Plates ~ Sheets ~ Flanged and Dished Heads ~ Floor Plates ~ Stampings

IN STANDARD AND SPECIAL ANALYSES

**CENTRAL IRON & STEEL COMPANY...HARRISBURG, PA.**

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**Snead Architectural Iron Works**  
**STRUCTURAL STEEL**  
**ORNAMENTAL IRON**  
**LOUISVILLE, KY.**

**Bristol Steel & Iron Works, Inc.**  
**STRUCTURAL STEEL**  
For Bridges, Buildings and All Industrial Purposes  
Steel Plate and Miscellaneous Iron Work  
Complete Stock Shapes, Plates, Sheets and Bars for Immediate Shipment  
**BRISTOL, VIRGINIA-TENNESSEE**  
"SAVE WITH STEEL"

**STRUCTURAL STEEL for BUILDINGS and BRIDGES**  
Capacity 1000 Tons per Month. 3000 Tons in Stock  
**Carolina Steel and Iron Company**  
The Largest Steel Fabricators in the Carolinas  
Greensboro North Carolina  
Sales Office: 709 Nissen Bldg., Winston-Salem, N. C.

**AUSTIN BROTHERS BRIDGE CO.**  
Structural Steel and Ornamental Iron  
Bridges, Reinforcing and Guard Fence  
**ATLANTA, GEORGIA**  
Oakland City Station

## AMERICAN STEEL SHEETS

FOR ALL KNOWN USES

**In Industry and Construction**

Use sheets of recognized reputation and value. For roofing, siding, gutters, spouting, air conditioning systems, and general sheet metal work — Keystone Copper Steel gives maximum rust resistance.

Insist upon AMERICAN Black Sheets, Keystone Rust Resisting Copper Steel Sheets, Apollo Best Bloom Galvanized Sheets, Galvannealed Sheets, Heavy-Coated Galvanized Sheets, Formed Roofing and Siding Products, Tin Plates, Terne Plates, Black Plate, Etc.

Write us relative to your sheet steel requirements. This Company also manufactures U S S STAINLESS and Heat Resisting Steel Sheets and Light Plates for all purposes.

**AMERICAN SHEET AND TIN PLATE COMPANY, Pittsburgh, Pa.**

SUBSIDIARY of UNITED STATES STEEL CORPORATION

## ORIOLE GALVANIZED STEEL SHEETS



Coporiole Copper Bearing Galvanized Steel Sheets  
Corrugated and Formed Roofing Materials  
Hot Rolled and Hot Rolled Annealed Steel Sheets  
Blued Stove Pipe Stock  
Cold Rolled Steel Sheets  
Automobile and Furniture Steel Sheets

Liberal stocks of galvanized products are maintained at all times.  
Write for our new Differential and Extra Booklet

**THE EASTERN ROLLING MILL COMPANY**  
**BALTIMORE MARYLAND**

## INDUSTRIAL NEWS

### Semet-Solvay Installations In South

Recent installations completed in the South by the Semet-Solvay Engineering Corporation, New York City, include the following. Erection of Semet-Solvay Koller Type Gas Producer plant at Charleston, S. C., for Virginia Carolina Chemical Company; erection of three high pressure oil gas purifier shells for the Laclede Gas Light Company, St. Louis, Mo., and two Semet-Solvay Koller type gas producers and recirculation system for the Tennessee Eastman Corporation at Kingsport, Tenn.

### Westinghouse Making Coolers

With the announcement that Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., has entered the field of the manufacture of beverage coolers, it is stated that the Coca-Cola Company selected Westinghouse to manufacture their entire 1934 line of coolers of new design. It is anticipated that 50,000 will be required this year.

### Factory Site For Sale Or Lease

W. B. Young of Orange Park, Fla., offers for sale or lease a factory site in Jacksonville, 175 by 350 feet, suitable to accommodate plants for the manufacture of steel vessels; automobiles, tires and parts; fabrics and textiles; wood pulp; paper etc. City improvements and transportation facilities are available.

### Edwards Loxseam and Capped Roofings

Two new roofings have been announced by The Edwards Manufacturing Company, Cincinnati, Ohio—Edwards Loxseam and Edwards Standing Capped Seamed Corrugated Roofing. The former, offers labor-savings advantages in its application and protection against blow outs, leaks, buckling and rattling, while the latter recommended expressly for steel buildings, is laid on purlins and held in place with cleats.

### Wheeling Steel Corporation Report

The 14th annual report of the Wheeling (W. Va.) Steel Corporation and subsidiaries, for 1933, shows net earnings from operations of \$4,662,244 after deducting charges for maintenance and repairs of plants. Addition of \$347,492 interest from investments and deductions for depreciation, etc., of \$5,834,496 left a deficit of \$824,759 which was offset to the extent of \$540,329 by credits arising from the purchase and retirement of Wheeling Steel Corporation bonds and profits on sales of investments. The net loss was \$284,430.

### Pittsburgh Plate Glass Net Income Up

Net income of the Pittsburgh Plate Glass Company, Pittsburgh, Pa., for 1933, amounted to \$3,993,934, as compared with a net loss of \$60,737 for 1932. Clarence M. Brown, chairman, and H. S. Wherrett, president, state that gross earnings for the year were \$9,198,831, compared with \$3,818,904 for 1932, while cash dividends declared in 1933 amounted to \$1,498,563, compared with cash dividends for 1932 of \$2,145,344. After all deductions and the payment of cash dividends, there was carried to surplus \$4,231,203 at December 31, 1933. Current assets of the company amounted to \$29,444,238 and current liabilities to \$3,667,179. Net working capital was \$25,777,059. A regular divi-

dend of 25 cents a share and an extra dividend of 10 cents, both payable April 2, have been declared.

### Sweet's Steel Company Changes

John A. Schultz, formerly general superintendent of Sweet's Steel Company, Williamsport, Pa., has been elected president of the company, and Carl G. Browne is in charge of sales. John E. Spotts continues with the company in the capacity of treasurer and purchasing agent.

### "Motorpump" In Larger Sizes

The Cameron Pump Division at Phillipsburg, N. J., of Ingersoll-Rand Company, New York City, is now building the Cameron Motorpump in 26 sizes ranging in horsepower for 1/4 to 30, and in capacities from 5 gpm to 1000 gpm. The Motorpump is a complete pumping unit with built-in electric motor and pump rotor on the same shaft.

### Explosion-Proof Motors

The Louis Allis Company, Milwaukee, Wis., announces the addition of direct current fan-cooled explosion-proof motors to its line of motors of this type. Three quickly removable screw caps permit easy and quick inspection of commutator and brushes, while other important features of design and construction add to the efficiency of the unit.

(Continued on page 48)

### Brown & Co., Inc. REALTORS Chattanooga, Tenn.

The eyes of the Country are now centered on Chattanooga and the Tennessee River Valley. We have for sale or rent, manufacturing sites, retail or warehouse sites, in fact land for any purpose. For further information write Brown & Co., Inc., 736 Cherry St., Chattanooga, Tenn.

## Looking Florida-ward

Thousands are looking towards Florida because, in the words of the late Richard H. Edmonds, "they realize that Florida possesses a variety of resources which make possible the widest and most profitable diversity of agriculture and manufactures."

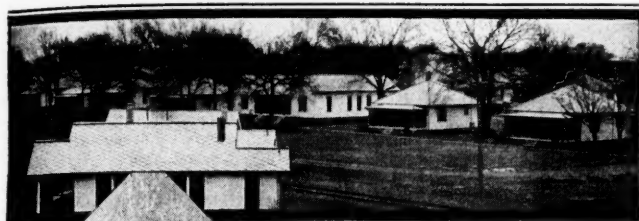
Those contemplating a change of location should by all means make a personal study of Florida.

For literature of the East Coast of Florida—write—

## Model Land Company

Flagler System

St. Augustine, Florida



Because of their known durability, economy and fire-proof qualities The Standard Pipe Line Co., Shreveport, La.; used 96,800 square feet Eternit Hexagonal Asbestos Cement Shingles on 48 Mill Cottages.

## 48 MILL COTTAGES RU-BER-ROID ROOFED

SOUTHERN Mill Owners have for years entrusted their roofing problems to RU-BER-ROID Products. Built-up roofs for industrial buildings, asbestos or asphalt shingles for schools, churches and employes' homes. Each RU-BER-ROID product is the best your roofing dollar can buy—a quality standard that has won confidence of the foremost leaders of industry. Samples and literature upon request. Address

### The RUBEROID Co.

ROOFING MANUFACTURERS FOR OVER FORTY YEARS

Sales Divisions: RUBEROID MILLS  
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CHICAGO, ILL.—MILLIS, MASS.—ERIE, PA.  
BALTIMORE, MD.—MOBILE, ALA.

## MODERNIZE with a CUTLER MAIL CHUTE



Expected as a matter of course in the modern office building or apartment.

It guarantees to the tenant up-to-date service and saves the owner its cost in reduced elevator operation.

Full information, details, specifications and estimates on request.

### CUTLER MAIL CHUTE CO.

General Offices and Factory  
ROCHESTER, N.Y.

## Certain-teed

Presents  
"MILLERIZING"



A Scientific Process That Means Longer Life in the Roof.

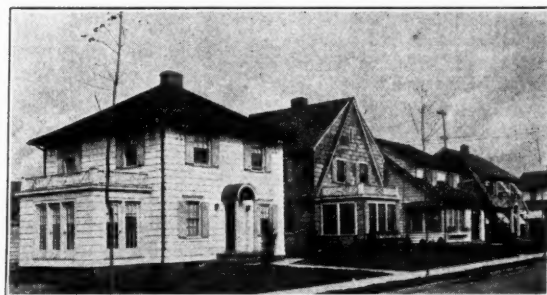
Every manufacturer wants the assurance of long life in the roof. The way to get this assurance is to insist upon Certain-teed "Millerized" Roll Roofings, Shingles and Roofing Felts.

This is a scientific, patented process which saturates every fibre of the roofing felt with asphalt more thoroughly and uniformly than any other process. Our nearest Sales Office will be glad to demonstrate this process or send you complete literature on the subject.

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Cabot's Creosote Shingle and Wood Stains are made with pure refined Creosote, the best wood preservative known. Shingles stained with them last twice as long. At the same time they beautify as well as preserve and their soft rich colors sink into the wood and are much more permanent than any "painty" type of stain.

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# Recent CHEMICAL Developments

## II

### 1. TRANSPARENT ROSIN

A result of intensive research work on Hercules wood rosins is a product so clean and clear that print is legible through slabs several inches in thickness.

### 2. SHEETED CHEMICAL COTTON

Chemical cotton, the basis of cellulose products, such as lacquers, films, plastics, synthetic fibres, paper, and explosives, is now available in sheeted form which increases its convenience for use in certain industries.

### 3. OIL PROOF INSULATION

Vinsol Resin is insoluble in mineral oils. It likewise is insoluble in vegetable oils with the exception of castor oil. Special treatment renders it compatible with vegetable drying oils. It possesses good dielectric properties.

### 4. EFFECT OF LIGHT AND HEAT

Nitrocellulose lacquer films have been thoroughly tested for their reaction to light and heat. The results are now available.

### 5. CHLORINATED CLEANSER

A new chlorinated cleanser, Clor-Clean which disinfects, cleans, and bleaches in one operation, has been developed for the sanitary washing of glass, china, silverware, and equipment in restaurants, bars, hotels, soda fountains, and hospitals.

### 6. TRANSPARENT PAPER

Abalyn is of great value in the manufacture of transparent paper. It is a viscous, pale yellow liquid containing about 95% mixed methyl esters of several isomeric forms of abietic acid.

### 7. PROTECTS METALS

Tornesit, newly introduced, is an unusually effective chlorinated rubber product for use in paints to protect against moisture, acids, and alkalis.

### 8. DEVOTED TO CHEMICAL RESEARCH

Extensive facilities for research on the application of naval stores, cellulose products, chemical cotton, explosives, and paper-making chemicals are maintained at the Hercules Experiment Station.

### 9. SCOURING TEXTILE FIBRES

Pine oil increases the solvent and wetting powers of soap solutions and specialty chemicals in kier boiling and washing textile fibres.

### 10. SAVES APPLES

Hybrex is a new pine compound which, when applied to apple trees in the dormant season, kills over-wintering codling moth larvae on contact.

More detailed information on any of the above subjects may be secured by filling in this coupon.



### HERCULES POWDER COMPANY

INCORPORATED

Wilmington, Delaware

I am interested in items numbered:

Name.....

Address.....

Company.....

IN-12-M

## INDUSTRIAL NEWS

(Continued from page 46)

### Ships Lumber to Africa

A shipment of 500,000 feet of lumber to East Africa for use in diamond and gold mines there was made recently by the Brooks-Seaton Lumber Co., Foley, Fla.

### Shielded Bearings

The Bantam Ball Bearing Company, South Bend, Ind., manufacturers of ball and roller radial and thrust bearings, recently added to their line of precision radial bearings the S.A.E. standard No. 203 Shielded Bearings.

### Manufacture Marsden Locknut

Russel, Burdall & Ward Bolt & Nut Company, Port Chester, N. Y., has acquired from the American Marsden Company, Jersey City, N. J., sole manufacturing and sales rights in the United States of the Marsden Locknut. For the development of the business, a Marsden Locknut Division has been created at Port Chester. The Locknut is of standard dimensions and tapping, but embodies a slotted head and an outer continuous bearing surface on its base. It is procurable in ferrous and nonferrous metals, in specially dimensioned designs and in sizes ranging from machine screw upward.

**Allis-Chalmers Bulletins.**—New publications of Allis-Chalmers Manufacturing Company, Milwaukee, Wis., include Bulletin No. 1165, illustrating the Allis-Chalmers line of Bracket Bearing Synchronous Motors, and Bulletin No. 149-A "Equipment of the Modern Brewery and Malt House," a revision of a previous bulletin on the same subject.

**Hand Control Grader.**—Bulletin 1326 has been issued by the Austin-Western Road Machinery Company, Chicago, on the new Austin No. 11 Hand Control Grader—a machine described as "far in advance of other conventional type graders," with unusual strength and capacity, durability and flexibility.

**Mica Insulating Material.**—The Continental-Diamond Fibre Company, Newark, Del., has developed a method of bonding small pieces of mica together in useful insulating forms, such as sheets, tubes, rings, etc., the bonded material being known as Micabond. Description of the product and its applications are given in a booklet issued by the company.

**Caterpillar Auto Patrols.**—Fuel economy, durability, speed range, power operated controls, power transmission and axle unit, weight distribution for maximum traction and maximum usable blade pressure are features discussed in an illustrated catalog on "Caterpillar" Auto Controls, issued by the Caterpillar Tractor Company, Peoria, Ill.

**Bulk Handling by Belt.**—A folder issued by Chain Belt Company, Milwaukee, Wis., describes and illustrates applications of REX-Stearns Timken Idlers in industries handling bulk material. REX-Stearns Timken Idlers is a product of Chain Belt Company, manufacturers of REX Chains, REX Concrete Mixers, REX Sprockets, REX Traveling Water Screens, REX Elevators and REX Conveyors.

**Double-Suction Centrifugal Pumps.**—Outlining important advances in centrifugal pump design, Bulletin 152 on Morris Double-Suction Horizontally-Split Centrifugal Pumps has been issued by Morris Machine Works,

Baldwinsville, N. Y. The publication is attractively illustrated and explains in detail features which characterize Morris centrifugal pumps and make available improved efficiencies.

**Naval Stores By-Products.**—Literature recently issued by Hercules Powder Company, Wilmington, Del., includes a pamphlet on CABINOL, a product of the Naval Stores Department of the company, for controlling insects that attack rustic furniture, fences, logs, etc. Another pamphlet deals with Truline Binder and the use of the resinous material as a dry binder and in oil sand cores.

**Welding Fittings and Flanges.**—The Taylor Forge and Pipe Works, Chicago, have issued a 34-page catalog covering Taylor Forge Welding Fittings and Flanges. In addition to a full line of Taylor Forge standard material, the book offers new engineering information and charts on the flexibility of welded piping design; new types of welding fittings, and new types of flanges.

**Union Cold Finished Shafting.**—The Union Drawn Steel Company, Massillon, Ohio, is distributing a booklet on Union Cold Finished Shafting, designed to acquaint users with the various grades of shafting available and to aid them in the selection of the grades best suited to their particular needs.

### Death of Murray J. Idall

Murray J. Idall, Chief Engineer, Virginia Public Service Company, Alexandria, Va., recently died at the age of 37, following an acute attack of appendicitis. He became chief engineer of the Alexandria company in 1928. He was actively engaged in engineering problems affecting the electrical industry, and supervised some of the most important development and construction work of his company.

By the Insurance Department.

CONDENSED STATEMENT

SHOWING THE CONDITION OF THE

**Fidelity & Guaranty Fire Corp.**  
**Baltimore, Md.**

DECEMBER 31, 1933

Bonds Amortized, Stocks Valued on Convention Plan.	
Total income during the year	2,962,011.97
Total disbursements during the year	2,913,385.27
Total admitted assets	4,613,324.00
Total liabilities except capital (including Contingency Reserve \$229,278.51)	2,959,684.73
Capital actually paid up in cash \$1,000,000.00	
Surplus over all liabilities	653,639.27
Surplus as to policy holders	1,653,639.27
Total liabilities	\$4,613,324.00
Net premiums in United States December 31, 1933	\$4,606,321.08
Risks written in Maryland during 1933	\$233,021,876.00
Premium on Maryland business in 1933	167,880.18
Losses paid in Maryland in 1933	60,927.71
Losses incurred in Maryland in 1933	61,803.71

STATE OF MARYLAND

Office of the  
STATE INSURANCE DEPARTMENT  
Baltimore, Md., Feb. 23, 1934.

I hereby Certify, That the above is a true abstract, taken from the Annual Statement of the FIDELITY AND GUARANTY FIRE CORP., BALTIMORE, MD., for the year ending December 31, 1933, now on file in this Department.

WILLIAM C. WALSH,  
Insurance Commissioner.

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TIES  
POSTS  
PILING  
CROSS  
ARMS  
CROSS  
TIES  
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Atlantic Creosoting Co., Inc.  
Norfolk, Virginia

Plants at: New Orleans; Winnfield, La.; Louisville, Miss.;  
Savannah, Ga.; Jackson, Tenn., and Norfolk, Va.



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3. Framing before treatment.
4. Preservative of known value.
5. Adequate treatment.
6. Treatment accurately timed to proper seasoning.
7. Unequalled facilities and personnel of the leading producer.

A lot of "wood will be sawed" by the next generation to finish repaying the cost of today's emergency construction. We

justify our course on the ground of building a solid prosperity for the future as well as the present. But unless we leave structures capable of rendering service until their cost is fully paid, have we played square with our children?

By selecting quality material and demanding good workmanship, present construction can be given a life adequate to cover this requirement. AmCreCo creosoted timber, piles, poles, etc. deserve selection for such work because of their established record of long life and satisfactory service.



will still be good when today's boys  
finish paying for them

AMERICAN CREOSOTING COMPANY

COLONIAL  
CREOSOTING  
COMPANY  
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GEORGIA  
CREOSOTING  
COMPANY  
INCORPORATED

LOUISVILLE — KENTUCKY

## Intimidation in Reverse Order

The New York Sun prints an interesting story of the course followed by a Pennsylvania printing company when it was charged by the National Labor Board with intimidation of employees. The charge was not substantiated, says the item, and the company was told by the Board's investigator there was no basis for the charge, but the company was not satisfied.

It decided to establish a closed union shop and "coerced" its employees with the threat of dismissal if they did not immediately join the union. Now the company pleads guilty of infraction of the Recovery Act and demands trial.

The subjoined letter to the Labor Board, which the company says has been ignored, tells the story:

Signed by R. C., but concurred in by brothers G. C. Hughes and C. L. Hughes, respectively president and treasurer of the company, the letter was sent on February 23, and here it is:

National Labor Board  
Washington, D. C.  
Gentlemen:

On February 6 we received this telegram from you:

"Union complains that company is intimidating employees to prevent their joining union. Further complaint is made that company refuses to meet duly chosen representatives of employees for purposes of collective bargaining. Please wire reply stating facts."

We wired back as follows:

"Charges ridiculous. Urge fullest investigation to clear up matter."

In return we received the following telegram:

"Frank H. Bowen, representing National Labor Board, will be in East Stroudsburg Wednesday or Thursday to investigate complaint as requested."

Mr. Bowen, a personable gentleman from Washington, D. C., visited us. The investigation consisted of the assurance that as long as we negotiated with representatives of the union nothing could happen to us. The profound feeling was brought home to us that in this matter of handling labor we were dealing directly with the United States Government, an institution for which we have too much love and respect to oppose.

We challenge you to prove in any court of law that these complaints were based on actionable fact; that prior to that telegram we either intimidated employees to prevent their joining a union or refused to meet duly chosen representatives of employees for purposes of collective bargaining.

The fact that since this telegram was

sent this company has signed labor contracts with subordinate unions of the American Federation of Labor does not mitigate by so much as a hair's breadth the validity of these complaints. Either we are guilty as charged or not. Either these complaints are tossed wantonly about and are used, in fact, as intimidation of the employer, or they are based on sound grounds.

If there is no basis for these complaints or charges, then we are entitled to have our name cleared.

If these charges are to be seriously considered, then we are justified in asking that we be given an opportunity of clearing the name of this company from these complaints.

If, however, the charges are indicative of collusion between the agencies of the Government and the American Federation of Labor in the frenzied effort to sovietize American industry, then we desire to spread before all American employers the fact that when they are dealing with agents of the American Federation of Labor, they are, in effect, dealing with the Government itself.

Since signing these labor contracts we have, perforce, informed our employees who did not wish to belong to the unions in question, that if they did not join by a specified date, they would be discharged from the employ of this company. This is pure and unalloyed intimidation of employees.

Typifying every employer of the nation who is forced to sign such labor contracts, nullifying the right of the individual under Section 7A of the National Industrial Recovery act, we do now plead guilty of intimidation of employees and await with pleasure whatever action, summary or otherwise, that you care to bring.

Very truly yours,  
Hughes Printing Company.  
R. C. Hughes, Secretary.

## Equitable Freight Rates

State authorities and the North Carolina Traffic League, Charlotte, have endeavored to obtain from the Interstate Commerce Commission authorization for more favorable freight rates to and from North Carolina points. In the course of the argument presented on behalf of North Carolina interests it was stated that:

"North Carolina has an area more than three times as large as Massachusetts, Connecticut and Rhode Island combined; an empire larger than England; a state rich in natural resources, and with almost unlimited opportunity for advancement. Lying almost at the very door of a great consuming territory it has found itself handicapped by un-

warranted classification ratings, a closing of natural gateways, and by inflated freight rates based on historical considerations and bearing no relation to cost or to transportation conditions.

"This unfair condition is the more regrettable because under the New Deal the South is being regimented in such a way as largely to deprive it of economic advantages which it previously enjoyed. Until recently wages in the South were materially lower than in the North, and working conditions more onerous. Only in this way was the South able to overcome the disadvantages of unfair freight rates and compete with others located nearer the markets and enjoying more favorable rates. The concentration of population in the North has been a tremendous benefit to the Northern manufacturers, to which has been added the advantage of lowest level of freight rates in the United States. These advantages could not have been overcome by the Southern manufacturers had it not been for the lower wages in the South, and co-operation by the Southern railroads in maintaining certain commodity rates without which they well knew the South could not live.

"The New Deal has done much toward equalizing labor conditions in the South and North. Furthermore, there is an increasing tendency on the part of the Northern railroads to refuse to participate in commodity rates from the South.

"No longer may Southern shippers be lulled into satisfaction with their high class rates by holding forth the hope of low commodity rates. Never was that hope more vain than it is today. In addition, there is a tendency to relate commodity rates more and more to class rates, the result being to deprive the South of the commodity rates upon which it has heretofore existed. Is the Federal Government with one hand to pour millions into the South to develop its industry, and then with the other hand authorize a continuance of arbitrary freight rate barriers to prevent the flow of the South's products? The position of the carriers here is that these barriers must be continued to preserve their revenues—to prevent a breakdown of the rates. The railroads are taking the narrow view that to make these rates fair will cost them money; that they will be better off if they continue a rate barrier which prevents traffic from flowing over their lines. If these artificial barriers are broken down, and this great empire called North Carolina is able to market its products in Northern markets, the railroads will share in the resulting prosperity. The trouble with the railroads today is lack of business, and the flow of traffic cannot be stimulated by the building of rate barriers."

## A Complete Organization

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truck, barge or scow from  
Baltimore, Md., and North  
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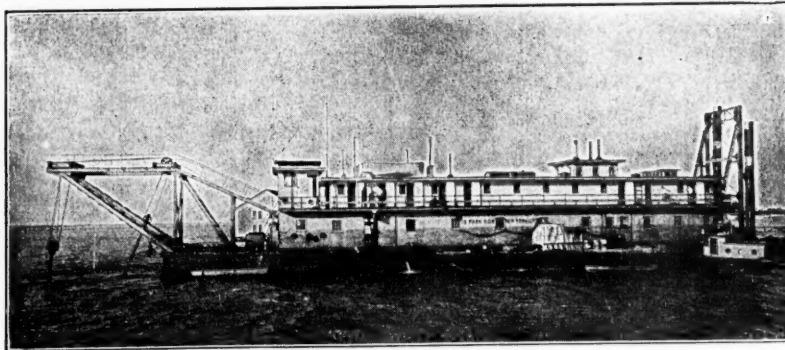
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# LOWER ELECTRIC RATES

**C**ONSUMERS of electric power in the states of Alabama, Mississippi, Georgia and Tennessee, are interested in the recent contracts entered into by the Tennessee Valley Authority and the power companies covering the territory embraced in these four states. Consideration of the rates laid down for both household and industrial consumers shows a live and let live basis for operation which should remove some of the fear on the part of power producers of government intention to drive them out of business.

There is evidenced in the agreements made with the different companies the intention to induce people to use more electric current and to that end reductions are offered. There is a certain amount of free electricity to be furnished beyond the average consumption of the individual home or plant in the past, and when that free amount of current is used up, there is an inducement to go beyond that at rates less than those which formerly applied. It is still a question what it will cost the producers to supply free of charge the excess over normal bills and the amount to be used beyond that at a lower rate. It would seem, however, the stabilization of the present income of the companies is virtually assured unless the number of consumers drops off or they use less electricity than they have been using, both of which are not at all probable.

The assurance of this income, which it is safe to say may be counted upon, gives a breathing spell with an opportunity to study production costs still further and possibly supply the extra free current without having it prove to be too great a burden of expense. There is the hope, of course, that the lower secondary rates for industry will prove an inducement to plants from other parts of the country to partake of the benefits of cheap power in an area blessed by nature with every advantage for a wide variety of manufacture.

The contracts are to run for five years unless Cove Creek dam is finished sooner, when they will be subject to review. If the arrangement works and proves agreeable to both parties, it is to be assumed they will be renewed.

Under the terms of the contract with the Georgia Power Company, and they are generally the same for the several companies in the territory mentioned, minimum bill residential customers will

continue to pay \$1 a month but the dollar will buy 15 kilowatt hours of electricity instead of 5 under the old rate. That is a reduction from 20 cents to approximately 6½ cents a kilowatt hour. All residential customers, large or small, get reductions in rates. For example, it is seen that a consumer averaging 100 kilowatt hours per month has the privilege of using 31 kilowatt hours additional without paying anything more. An interesting feature of the new rate schedule is that the smaller customers get the largest proportionate saving in money while the larger customers get more free electricity but a smaller proportionate reduction in their bills. The only requirement for the customer to get the use of the free electricity in any month is that the amount of electricity used in that month shows an increase over the amount used in the corresponding month of 1933.

With the same general rules applying to the intermediate amounts not shown, the accompanying table illustrates the savings under the new rates.

Monthly use in KWH	(1) Old Rate	(2) New Rate	(3) Free KWH	(4) Inducement Rate
5	\$1.00	\$1.00	10	\$1.00
10	1.30	1.00	5	1.00
15	1.60	1.00	0	1.00
20	1.90	1.30	1	1.23
25	2.20	1.62	3	1.45
30	2.50	1.87	4	1.68
35	2.77	2.12	5	1.90
40	2.95	2.37	5	2.13
45	3.17	2.62	6	2.35
50	3.40	2.87	6	2.58
60	3.77	3.37	11	3.03
70	4.07	3.67	16	3.35
80	4.37	3.97	21	3.55
90	4.67	4.27	26	3.75
100	4.97	4.57	31	3.95
120	5.57	5.17	41	4.35
140	6.17	5.77	51	4.75
160	6.77	6.37	73	5.15
180	7.37	6.97	101	5.55
200	7.97	7.57	129	5.95
250	8.97	8.32	139	6.58
300	9.97	9.07	149	7.20
400	11.97	10.57	169	8.45
500	13.97	12.07	189	9.70
600	15.97	13.57	237	10.95
700	17.97	15.07	287	12.20
800	19.97	16.57	337	13.20
900	21.97	18.07	387	14.20
1000	23.97	19.57	437	15.20

As an illustration of how the table works, suppose a customer's electric bill has been averaging \$3.77 a month (see column 1). Under the old rates that amount paid for 60 kilowatt hours. For the same amount of electricity the month bill under the new rates will be only \$3.37 (see column 2), a saving of 40 cents. For the new reduced bill of \$3.37 the customer is entitled to use, free, an additional 11 kilowatt hours (see column 3). It means that the customer can now get 71 kilowatt hours for \$3.37 whereas he had been paying \$3.77 for only 60 kilowatt hours, or in other words, he now gets 11 more kilowatt hours for 40 cents less money.

If any consumer in any month "uses

## An Analysis of Reduced Price Schedules of Power Companies in Alabama, Georgia, Mississippi and Tennessee

up" the free electricity, to which he is entitled and increases his consumption, then all of the electricity used in that month comes to him at an "Inducement Rate," at an even lower price. Beginning with 20 kilowatt hours, the inducement rates are proportionately under the regular schedule. As an example, the customer using 100 kilowatt hours during January 1933, and for which he paid \$4.97 under the old rate (see column 1) under the new reduced price pays \$4.57 (see column 2), and is entitled to 31 kilowatt hours more (see column 3). If this consumer now exceeds his allotment of free electricity and uses 140 kilowatt hours he is entitled to the inducement rate on the entire 140 kilowatt hours for which his bill is \$4.75 (see column 4). In other words, he can buy 140 kilowatt hours for 22 cents less than he was paying for 100 kilowatt hours under the old rates.

The contracts made with private companies by the TVA are different from the contracts made with Tupelo, Miss., and similar agreements offered other communities within the territory which the TVA has reserved for its operation.

What will be the effect upon the agreements which this article is discussing, when Cove Creek dam, with its 200,000 developed horse power, is finished, is a matter to be studied. The entire TVA plan, admittedly an experiment, is of vital interest to the territory involved and to the whole country.

The next step to be taken up for similar work on the part of the government, is the Missouri River Valley which, with the tributaries of the Missouri River, involves an area of ten states or more.

Industry, which seriously questions the effectiveness of government operation in a field heretofore given over to private enterprise, is watching these huge experimental moves in government operation. It does not want to see such operation extended to other forms of activity.

There has come, however, in the present state of affairs, a breathing spell for privately owned power producers, and as the country recovers from the depression there should be encouragement and incentive to sell more power and progress along lines of upbuilding.



## Mascot Chatts

ASPHALTIC ROADWAY GRAVEL

ROOFING GRAVEL CRUSHED STONE

ASPHALT FILLER DUST

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Four Quarries

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Association

## Increased Tax Tag Sales and Earlier Movement Point to Greater Use of Fertilizer in the South This Year

**T**HE Fertilizer industry expects a moderate increase in the consumption of fertilizer in the South this year compared with 1933. That this expectation is being fulfilled is shown by the February fertilizer tax tag sales in the Southern States. These sales, ordinarily representing about 18 per cent of the full year's sales, were 70 per cent larger than in 1933. Several factors contributed to this large increase. The sales for February, 1933, were unusually small. The sales of tax tags however, should not be confused with the sales of fertilizer. In the early months of the year, many manufacturers purchase large supplies of tags to be used in succeeding months. In comparison with previous years, February, 1934, sales were only 50 per cent of the three-year average, 1928-1930, for February and were only 19 per cent higher than the three-year average, 1930-1932 for February.

Because of the reduced hours that employees may work weekly under the Fertilizer Code, it is apparent from the tax tag sales for the past few months that manufacturers are making every effort to move the fertilizer at an earlier date than heretofore. During the past few seasons particularly, there has been a last-minute rush at planting time. The increased volume of fertilizer moving by truck has also tended to concentrate the movement of fertilizer at planting time. Also credit conditions are easier than a year ago, making it possible for dealers, agents, and farmers to purchase earlier in the season.

### Present Consumption of Fertilizer Compared With Previous Years

In 1930, total sales of fertilizer in the United States amounted to 8,164,000 tons. This is the highest consumption ever attained, and represented a turnover for the industry of approximately \$250,000,000.00. In 1932 consumption had declined to 4,362,000 tons, and to a total sales value of less than \$100,000,000. The volume of sales therefore declined 47 per cent, and the value of sales more than 60 per cent. In 1933 there was an increase in tonnage sales of between five and ten per cent, and a corre-

sponding increase in the value of sales. A further increase in 1934 is expected, but it will be a moderate increase, owing to the fact that the acreages of cotton, tobacco, wheat and corn are being substantially reduced through the operation of the Agricultural Adjustment Act.

While the actual consumption of fertilizer in tons was 55 per cent less in 1933 than in the peak year before the war, namely, 1914, the fertilizer consumption in terms of plant food was only about ten per cent less. Dr. P. E. Howard, of the Fixed Nitrogen Research Laboratory, United States Department of Agriculture, who has carefully studied this matter, has estimated that the average analysis in 1914 contained between 12 and 13 per cent of plant food. He has also estimated the average in 1929 was between 17 and 18 per cent. In 1933 the plant food content and the average fertilizer was about the same as in 1929. Dr. Howard's estimates show that the average amount of plant food in a ton of fertilizer has increased 40 per cent in the period from 1914 to date.

### The South and Muscle Shoals

In the nine States that are located in or near the Tennessee Valley, namely: Alabama, Tennessee, Georgia, South Carolina, North Carolina, Virginia, West Virginia, Kentucky, and Mississippi, there are 463 fertilizer plants with a capacity to produce fully 8,400,000 tons of mixed fertilizer. Of these plants, 68 make their own sulphuric acid, use it to acidulate phosphate rock in the manufacture of superphosphate which in turn is used in making mixed fertilizer. There are also 60 plants that make superphosphate and mixed fertilizer and 335 dry-mixing plants.

In the same group of States the peak consumption reached in 1930 amounted to only 4,740,000 tons of all fertilizers. Therefore, only 56 per cent of the total production capacity was utilized. But in 1932 consumption dropped to 2,222,000 tons or to only 26 per cent of capacity.

That is the picture that confronts the Tennessee Valley Authority in its effort to plan a fertilizer program, and that

also is the picture that confronts the fertilizer industry in its efforts to regain a reasonable degree of prosperity.

In view of the fact that the fertilizer industry is now utilizing perhaps one-third of its capacity and under its Code has pledged itself to increase wages by \$4,000,000 this year, it would seem that the entry of a Government agency into the field of commercial fertilizer production might be regarded at this time as a form of unfair competition.

## Half of \$10,000,000 Illinois Central Improvement Program in South

**R**EFERRING to the expenditure by the Illinois Central System of \$10,000,000 in the remaining months of this year in laying new rail, renewing bridges, repairing locomotives, freight and passenger cars, President L. A. Downs, states that the expenditures will be fairly evenly divided between the northern and southern half of the System.

The territorial distribution of the track and shop expenditures will be made as the work progresses but the expenditures for bridge work is mainly in the South.

Track and bridge construction will begin as soon as the materials can be delivered. Orders have been placed for part of the steel required. Approximately 2,000 men will be added to the railway payrolls to handle the program, and it is estimated that the purchase of the necessary materials will provide employment for at least as many more in the supply industries.

About \$1,437,000 will be spent on the renewal of 123 miles of main line track laying 21,600 tons of new rail together with the necessary cross-ties and track fastenings.

The 507 foot approach on the Illinois side and the 3,514 foot approach on the Kentucky side of the Illinois Central bridge over the Ohio River will be completely rebuilt with new material at a cost of approximately \$900,000.

The viaduct 750 feet long and 140 feet high at Big Clifty, Ky., is to be renewed. In order to avoid interruption to traffic and to reduce the curvature of the railroad at this point, a new steel trestle will be built alongside the 45-year old structure, which later will be removed.

A tunnel relining job near Reevesville, Ill., and repairs of rolling stock complete the \$10,000,000 program.



Top—A train of Western 2-yard Power Wheelers excavating a drainage outlet—loading the power scrapers.

Center—Carrying four cubic yards of material.

Bottom—Dumping the load. The man riding back of the tractor handles both scrapers from that position.



Western Power Wheelers are built  $1\frac{1}{4}$ - and 2-yard sizes. Four 2-yard wheelers can be handled by a 60-H.P. crawler tractor. A 35-H.P. tractor can handle four of the  $1\frac{1}{4}$ -yard machines. Their superior mechanical features are fully described in Bulletin W-33-BM. Write for a copy.

## Western Wheeled Scraper Company

Aurora, Illinois, U. S. A.



## Your Outfit Should Include Western Power Wheelers

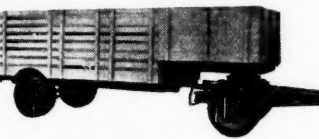
What do you do when you are confronted with a channel change or some other work entirely unsuited to your big machine outfit? Western Power Wheelers solve this problem. They operate efficiently either on long or short hauls; can be easily maneuvered in close quarters, and handle practically any material except solid rock. A train of Western Power Wheelers works well with larger equipment. On a small job, the same train frequently can do all the grading alone.

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# UNUSUAL CONSTRUCTION EQUIPMENT

**I**n the construction of the gigantic Boulder Dam many difficult engineering and equipment problems had to be solved. For example, to deliver the world's largest steel pipe for the fabrication of the great penstock necessitated the development of the world's largest trailer. It required 110,000,000 pounds of steel to be formed and welded to make 14,500 feet of pipe varying in thickness up to  $2\frac{3}{4}$  inches and running in diameter from  $8\frac{1}{2}$  to 30 feet. The impossibility of shipping sections of the fabricated pipe in such size by rail made it necessary for Babcock & Wilcox of Barberton, O., to set up a fabricating plant about a mile and a half from the Dam. Its transportation over a rough mountain road to installation points was one of the greatest problems.

The engineers of the Six Companies, Inc. builders of the Dam, had several plans in mind for hauling the pipe—the railroad and the trailer. The railroad plan required the use of four or six rails to provide ample lateral stability, and the probable widening of several deep rock cuts. The trailer required only the leveling of the super elevation on curves of the roadway, and this together with several other factors proved the most practical method of hauling this pipe. The maximum load is approximately 185 tons.

The handling of a trailer that would carry a load of 185 tons meant the construction of the largest trailer ever built. It meant a project in trailer design never before conceived. There was no precedent.

La Crosse Tu-Way Trailer With Test Load of 235 Tons



Such a trailer has been built, tested, and accepted by the United States Government and the Six Companies, Inc.

The trailer was furnished by the C. R. Jahn Company of Chicago, Ill., designed and built in the shops of the La Crosse Boiler Co. of La Crosse, Wis., in collaboration with the Bendix-Westinghouse Automotive Air Brake Co., Ingersoll Rand, Northern Pump Co., and Goodyear Tire & Rubber Co. This machine is built of a fabricated steel frame, is equipped with air brakes, has hydraulic steering, and meets the condition of traveling the narrow road and sharp curves by separate control of the wheels on either side of the trailer. The basic structure consists of a frame built up on two 33 foot beams on which are mounted axles and wheels, oil pump, steering mechanism, and air compressor. The overall length is 37 ft. 8 in. The overall width, 22 ft. The axles are spaced 14 ft. 9 in. center to center. The frame is supported by 16 wheels mounted on eight axles, two on each side at each end. Thus there are four wheels on each side at each end, carrying eight 28 x 14 Goodyear tires, making a total of 32 tires on the trailer. This provides 448 inches of tire width distributed over the 16 wheels, providing 28 inches of tire per wheel. This is necessary, as with a possible maximum load of 185 tons each tire may at times be called upon to carry 14,000 lbs. or more.

In order to make power available for instant use when the position of the wheels change to meet road conditions, it was essential that constant equalized pressure be maintained on the hydraulic cylinders. The perfected plan utilized a 15 HP gasoline engine driving an oil pump direct. The pump is a Northern

Nitroalloy Steel Pump with a capacity of 50 gallons of oil per minute at 300 lbs. pressure. This pump supplies a constant equalized pressure to the hydraulic cylinders, of which there is one for each set of four wheels. The steering action is controlled by a steering wheel which actuates a control valve.

Steering the trailer around a curve of 100 ft. outside radius offered a serious problem due to the wide track of 15 ft. 9 in., which is beyond the limits of any formula on axle angularities. The problem was solved by the introduction of a compensating link between the two main steering levers which makes it possible to steer the wheels on the inner arc of the curve at the required radius to assure a rolling action of all sixteen wheels.

Brakes are of the internal expanding type with Bendix-Westinghouse air brake chambers mounted on a special bracket at each of the sixteen wheels. Four air storage tanks are required. The air compressor is an Ingersoll Rand type 30. It is driven by a V belt from a 5 HP gasoline engine. The compressor maintains a pressure on the tanks of from 90 to 100 lbs. and has a maximum discharge of 200 lbs.

The trailer is fully reversible, hauling may be done from either end, and drawbars at both ends are provided for this purpose. Thus space for turning such a large unit around is not necessary and the empty trailer can return from the dam without the difficulties or dangers that would attend the turning of such a large piece of equipment.

Cradles covered with rubber blocks 18 x 36 in. are provided for the pipe. Different size cradles are provided for the different sizes of pipe. The trailer is hauled by tractors or trucks, though at one time some thought was given to towing it with a locomotive on tracks laid in the roadway.

## Pushing Work on Coastal Canal

Progress is reported on the construction of the Texas-Mississippi River intracoastal canal. Completion of the section to Corpus Christi is being pushed as rapidly as possible. Only short stretches remain to be dredged to complete the Galveston-Port Arthur link. Regular barge service has been in operation for some time between New Orleans and Beaumont.

TOURISTS SPENT \$7,000.00 a day in Florida during height of the winter season.

## HOW GOOD ARE STERLING ENGINES?

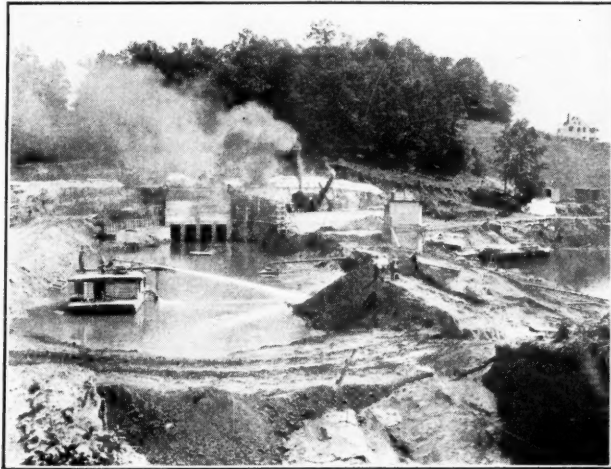
In semi-continuous emergency duty, various Sterling engines have been reported as running steadily during the entire period, ranging from a few hours, a few days, several weeks, 3 or 4 months up to one and one-half years.

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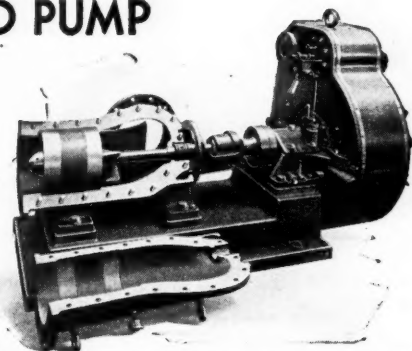
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Propeller pump with casing cover removed, showing guide vanes and wearing sleeve surrounding the propeller.

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## A City With Money in the Bank

(Continued from page 17)

of the Department of Finance, shows total assets of \$436,084,787.34 and liabilities which total \$217,512,621.63, leaving an excess of assets over liabilities of \$218,572,165.71. The current assets total \$13,176,642.71 as against total current liabilities of \$4,008,995.88, or an excess of \$9,167,646.83. The largest item in the current assets is accounts receivable, amounting \$10,326,356.92, of which \$7,742,586.72, represents unpaid taxes. Taxes are listed to show the years in which they were levied. Of taxes outstanding, only slightly over \$1,100,000 represents taxes prior to 1932.

The financial statement of the City as set forth in the report gives a full picture of its financial operations and resources, and has been of particular interest to business men and business organizations.

The achievement of Baltimore City in closing the budget year of 1933 with a surplus and at the same time reducing its tax rate was the result of the application of plain common sense business practices to public affairs.

While the depression which started in 1929 was not felt to a considerable extent until 1932 in so far as the fiscal affairs of the City Government were concerned, when it did strike, it hit with a vengeance. The taxable basis of Baltimore City, on which the City is dependent for from 70% to 75% of its budget revenue, each year up to 1932, certainly for the last 20 or 25 years, has shown a constant increase, but in 1932 decreased almost \$100,000,000 and in 1933 there was a further decline of over \$238,000,000, or on the same basis of collectibility as for 1931, was equivalent to a loss in revenue of over \$3,000,000.

Another effect of the depression on Baltimore City was the decline in the collectibility of taxes in the current year. Unlike some of its sister cities, Baltimore's budget is predicated on the amount of taxes it is believed will be collected in the current year. New York, for instance, computes its tax rate on the total levy regardless of when the taxes will be collected. After a certain period when taxes are determined to be uncollectible, it includes in its budget an amount necessary to take care of the deficiency. Of course, such financing results in a floating debt and the expense of carrying same, and in their case has developed into a matter of considerable financial embarrassment in as much as their uncollected taxes are reported to amount to \$200,000,000. Up to 1932 Baltimore had been able to maintain an extraordinary high rate of current tax collections; which in 1931 was figured

at 95%. In making the budget for 1932, this was reduced to 93%, while in 1933 this was further reduced to 87%, which resulted in a further decline of revenue of approximately \$2,000,000, making a total reduction in revenue by reason of the decline in basis and the amount that could be estimated to be collected in the current year of around \$5,000,000. There was a further decline in the miscellaneous sources of revenue which as has been indicated comprises approximately 25% of the City's budget. The Board of Estimates was faced with the further problem of providing for an increase of approximately \$2,000,000 for appropriations over which it had no control, notably the appropriations for debt service. In addition, instead of collecting the estimate of 93% of current tax collections in 1932, the actual collections were but 87.47%, resulting in a deficiency of over \$2,300,000, which had to be provided for in 1933.

To meet this problem there was but one common sense method of procedure. To wit, to eliminate and reduce every appropriation not absolutely imperative to the needs of the City Government, and this is just what was done. In other words, appropriations which in 1931 aggregated \$27,697,993.36 were reduced for 1933 to \$20,880,986.95 which was slightly over \$500,000 more than was provided for these same activities in 1923, ten years prior. This unprecedented retrenchment was only the beginning of a policy of unrelenting vigilance over the City's finances on the part of the Administration. Throughout the year, notwithstanding the heavy reductions that were made in appropriations, Department Heads were advised by me to reduce all expenditures to the lowest point consistent with public needs. The general response to this was almost wholly responsible for entering the year 1934 with a surplus of \$974,000.

The facts as given above should be of interest to business men and to taxpayers in general. Government is supported by the tax dollar and the people are interested in the proper control of receipts and expenditures.

## Employee Representation and the Wagner Bill

(Continued from page 21)

no indication that supporters of this bill are equally willing to urge and cooperate in such an inquiry.

The Wagner Bill specifically excepts labor organizations and their officers or agents from the definition of an "employer" and thereby, by implication at least, grants them immunity with respect to practices classed as unfair on the part of all other employers and violation

of which submits the other employers to the liability of fine and imprisonment. It makes a gentleman of one and a criminal of the other.

We recognize the right and are heartily in favor of permitting employees to bargain collectively in any manner they choose and through any representatives they might elect. Their decision with respect to their form of organization and their choice of representatives should be reached without the improper influence, coercion or abuse upon the part of management or upon the part of those who are not directly connected by employment in the plant.

The fact that this proposed legislation permits of a closed shop against men who do not wish to join a union definitely discloses the real purpose of the act. No employee should be forced to join any organization because the majority of his fellow workers choose to be members of this organization or because his employer elected to agree to such a provision with an organization to which a majority of his employees belong. The right to organize includes the right to remain unorganized.

The impropriety of setting up a national union with such powers to virtually force workers into their ranks, where they must pay dues, is shown vividly by figures recently compiled by the National Industrial Conference Board in New York. Taking at random 10,000 manufacturing and mining companies, questionnaires were sent out. There were 3,314 responses, with no attempt to select union or non-union operations. The results showed 1,180,589 workers or 45.7% still dealing individually with their employers, 1,164,294 or 45% dealing through employee representation plans formed in their own companies, 240,866 or 9.3% dealing through organized labor unions. The accuracy of this poll is shown by the fact that the American Federation of Labor, which the Wagner Bill proposes through implication to make the dominant organization of the nation's workers has never mustered above 10% of the nation's workers.

In my opinion, a proper relationship between men and management cannot be accomplished by legislation. Without mutual understanding, confidence and respect, you cannot have satisfactory and friendly relationships.

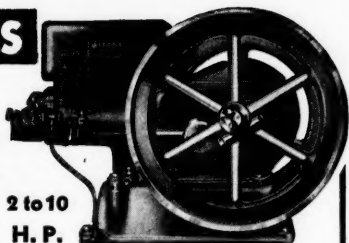
We tried one great experiment in Prohibition; let's not make another great national mistake by creating a condition through the establishment of prohibitions and control over the proper, fair and natural intercourse between the employer and his employee that would destroy happy and mutually satisfactory relationships that have been built up over many years of close personal contact and conference.

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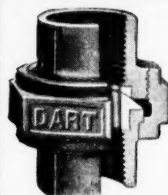
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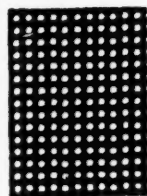
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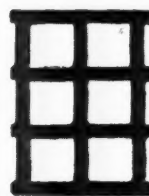
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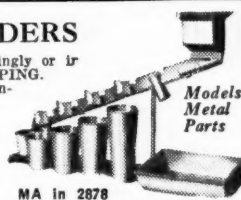
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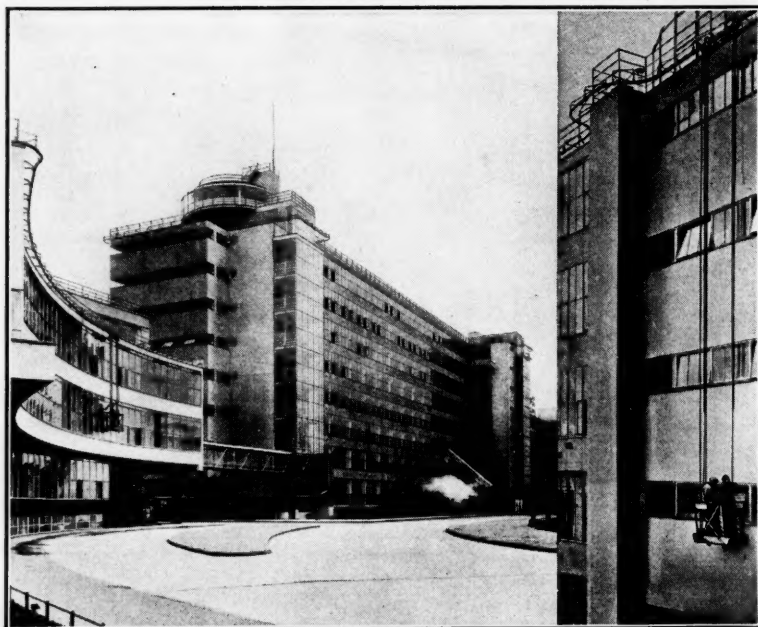
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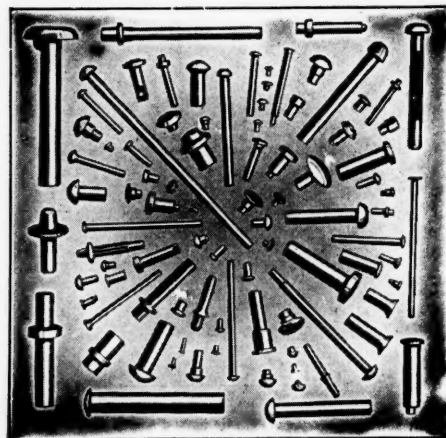
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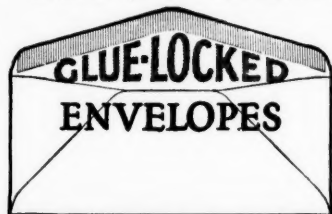
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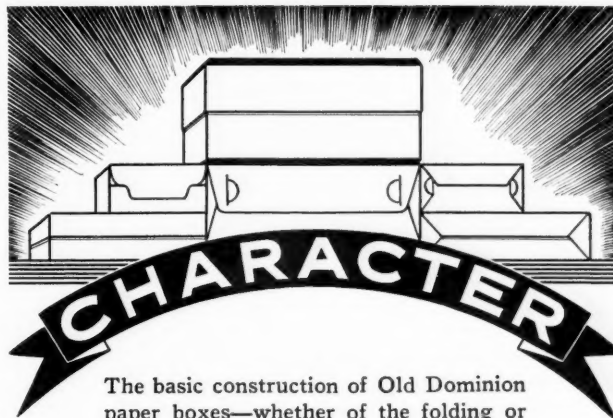
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Creosoted Materials	49	Sheets (Steel, Galvanized, etc.)	29, 40, 41, 44, 45
Draglines	35	Ships (Welded)	61
Drawing Instruments	67	Shovels (Power)	35
Dredging Contractors	51	Stains (Shingle)	47
Drills (Diamond and Shot)	67	Stampings (Metal)	59
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Engines (Diesel, Gas and Gasoline)	57, 59, 69	Structural Steel	29, 40, 45, 49, 68, 71, 72
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Filters (Water)	44	Tarpaulins	55
Financial	37	Telephone Service	27
Flexible Shaft	59	Tips (Welding)	65
Flooring (Maple)	53	Tires and Accessories	4
Flooring (Steel)	44, 49	Tractors	3
Galvanizing	67	Trailers	55
Gas	37	Trucks (Motor)	55
Gears	59	Turbines (Steam)	57
Glass (Window)	6	Unions (Pipe)	59
Granite	53	Washing Equip. (Window)	60
Hotels	61	Wheelers (Power)	55
Insurance	36, 48	Wire	7
Land (Farm)	46	Zinc Chloride	8
Limestone (Crushed)	53		
Lumber (Creosoted)	49		

## Government Power Development and Employment

Estimating that 40,000 miners and thousands of railroad employees and others dependent on the coal industry will be forced into the ranks of the unemployed by the Government's hydro-electric development program, Senator Jesse H. Metcalf of Rhode Island asserts it would cause distress to 150,000 men, women and children. This information is given in a bulletin issued by the National Coal Association which quotes from a speech made by Senator Metcalf. He points out that the hydro-electric power developments of the Government will displace 53,000,000,000 kilowatt hours.

"We must assume that the production of electric energy by water power will displace a similar amount of energy which would ordinarily be produced by coal and steam turbines," said Senator Metcalf. "It is estimated that an average of one and four-tenths pounds of coal is consumed in the production of 1 kilowatt hour in a coal and steam plant. This would mean that the hydro-electric developments of the United States Government will displace the use of about 40,000,000 tons of coal annually. I have an estimate that one miner is needed for the production of 1,000 tons of coal per year. On this basis the United States Government will be responsible for the unemployment of 40,000 miners each year.

"Such a tremendous inroad on the consumption of coal not only would have a disastrous effect upon the coal industry itself but would cause an unemployment problem among the mine workers of much importance."

## PROPOSALS

Bids May 4, 1934.  
DEPARTMENT OF AGRICULTURE, Washington, D. C., April 4, 1934.—SEALED BIDS, for the furnishing of labor, materials, transportation, tools and equipment required for erection of a farm tillage machinery laboratory building at the Alabama Agricultural Experimental Station, Auburn, Alabama, for the Bureau of Agricultural Engineering, will be received by the Chief, Division of Purchase, Sales, and Traffic, U. S. Department of Agriculture, Washington, D. C., until 2:00 P. M., May 4, 1934, and then opened. Plans and Specifications may be had on application to the Chief, Division of Purchase, Sales, and Traffic on deposit of \$10.00. Checks must be certified and made payable to "Disbursing Clerk, U. S. Department of Agriculture."

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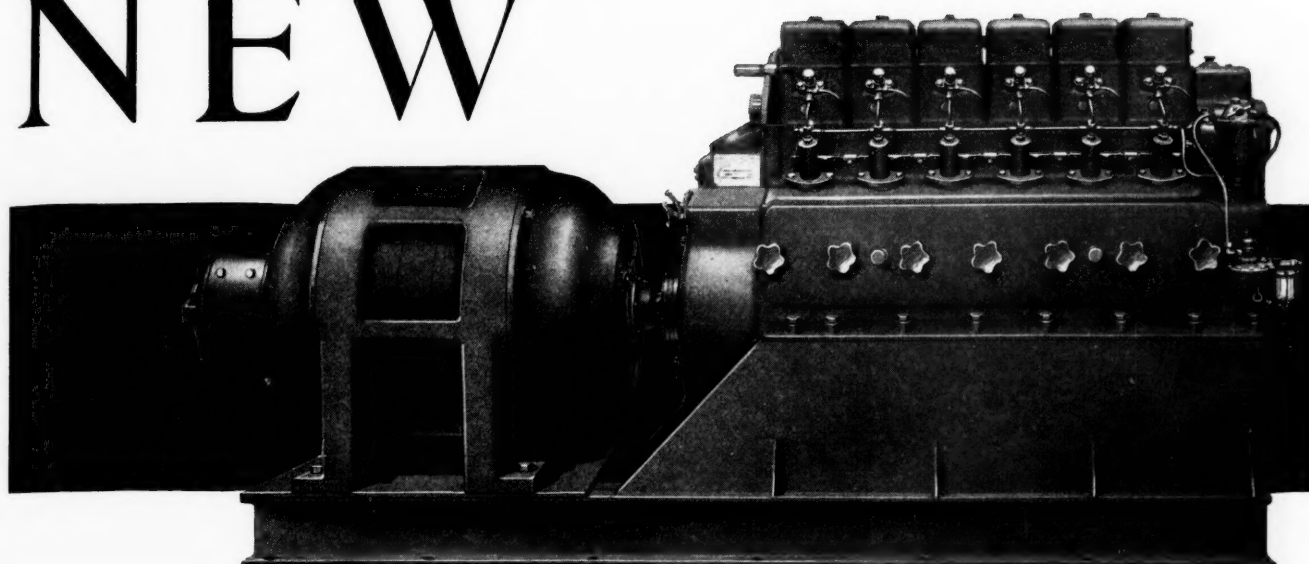
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### What the **NEW SELFEEDS** Are

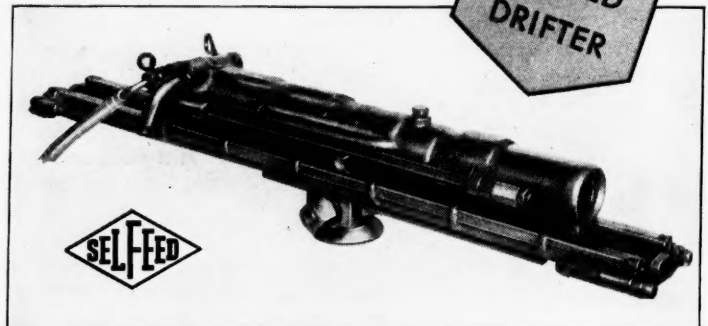
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